



ACIDIC PRECIPITATION  
IN ONTARIO STUDY

DAILY PRECIPITATION  
CHEMISTRY LISTINGS  
1987

004-89

JULY 1990

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Environnement

Jim Bradley, Minister/ministre

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ACIDIC PRECIPITATION IN ONTARIO STUDY  
DAILY PRECIPITATION CHEMISTRY LISTINGS  
1987

ARB-004-89

Report Prepared by:  
Atmospheric Research and Special Projects Section  
Air Resources Branch  
Ontario Ministry of the Environment

JULY 1990



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#### ACKNOWLEDGEMENT

This report was prepared by Diane Green and Joe Lam of the APIOS Atmospheric Deposition and Chemistry Program. However, the data themselves are a product of the combined efforts of many individuals. Collection of air filter samples was coordinated by Bill Trayling (in Northeastern Region), Steve Elliott (in Southeastern Region), Scott Kennedy (in Southwestern Region), Wim Smits (in Northwestern Region) and J.P. Varto (in Central Region). Sample handling was carried out by Sue Lampinen and Celine Audette. Chemical analyses were performed at the Laboratory Services and Applied Research Branch under the coordination of Frank Tomassini. Data entry was performed by Diana Rhodes and co-ordination of data entry and records management by Peter Maheras. Joe Lam provided invaluable assistance with systems development. Data validation and overall systems management was performed by Diane Green. All enquiries regarding the reported data should be directed to Neville Reid, Co-Ordinator, Atmospheric Deposition and Chemistry Program (416) 326-1691.



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- I - STANDARDS DEVELOPMENT BRANCH

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## TABLE OF CONTENTS

	<u>Page</u>
PART I INTRODUCTION	II

PART II STATION DESCRIPTION AND LOCATION MAP	V
--	---

PART III CENTRAL REGION DAILY PRECIPITATION CHEMISTRY LISTINGS	
---	--

<u>Station Name</u>	<u>Map Ref. No.</u>	<u>Page</u>
Balsam Lake	06	1
Dorest	08	13
Nithgrove	07	28
Raven Lake	05	40

PART IV NORTHWESTERN REGION DAILY PRECIPITATION CHEMISTRY LISTINGS	
---	--

<u>Station Name</u>	<u>Map Ref. No.</u>	<u>Page</u>
Dawson	17	52
Fernberg	16	58
Quetico Centre	14	70

PART V SOUTHEASTERN REGION DAILY PRECIPITATION CHEMISTRY LISTINGS	
--	--

<u>Station Name</u>	<u>Map Ref. No.</u>	<u>Page</u>
Charleston Lake	11	76
Railton	10	85
Wilmer	9A	94

PART VI    SOUTHWESTERN REGION DAILY PRECIPITATION  
CHEMISTRY LISTINGS

<u>Station Name</u>	<u>Map Ref. No.</u>	<u>Page</u>
Longwoods	02	106
Melbourne	01	115
North Easthope	03	127
Wellesley	04	139

PART VII    QUEBEC INTERCOMPARISON SITE

<u>Station Name</u>	<u>Map Ref. No.</u>	<u>Page</u>
Sutton	n/a	151

PART I

INTRODUCTION

## INTRODUCTION

The data listed herein are a summary of the 1987 results acquired from the APIOS daily precipitation sampling network. All data presented in this report have been screened for validity. Remarks and qualifications have been appended to records, and/or results where necessary. The screening procedure involved checking each record for chemical analysis integrity (e.g. ionic balance, observed vs. theoretical conductance). Gross limit checks were applied to the results. Upper limits were determined as  $M + 2S$  where median (M) and scale (S) represent robust estimates of the mean and standard deviation respectively. Scale of the distribution was determined from interquartile distance, i.e.  $S = 0.74$  (3rd quartile - 1st quartile) distribution is significantly bounded by reported detection limits, S may be estimated as follows,  $S = 1.48$  (3rd quartile - 2nd quartile). Lower gross limits were specified by the above method except for those parameters with minimum values at or near the detection limit (Mg, K and Na). For these parameters a lower gross limit of zero was utilized. The data were also screened for outliers statistically by applying the Dixon Ratio test to the highest and lowest values observed in each region on a daily basis. Outliers were determined at the 95% level of confidence. Records and/or results deemed unreliable were flagged not delayed. Detailed description of the validation procedures as applied to this data set is available from the Ministry upon request.

### Station Identification

The station identification is defined by four descriptive fields (e.g. Dorset/Daily/Aerochem #8). The first field refers to the sampling location. The second and third fields describe the sampling interval and the instrumentation used respectively. The last numeric field refers to the index code utilization on the location map.

### Daily Precipitation Chemistry Listings

Sample type, as coded in the data listings, represents the best guess of the type of event which was sampled. All chemical analysis were done on unfiltered sampler. Lab pH entries represent pH measurements at the main MOE Laboratory in Toronto while field pH entries represent measurements at regional laboratories. Remarks codes (e.g., U,A) appended to individual results are defined in a later section. The tabulated results for "Free H" were calculated from the reported Lab pH. Total hydrogen results, reported as "Total H", represent either a gram analysis titration or a titration of the sample with NaOH to an end point pH of 8.3.

### Calculation of Equivalent Precipitation Depth (mm)

$$\text{Equivalent Precipitation Depth (mm)} = \frac{\text{Volume Collection (ml)} \times 15.6}{1000}$$

### Calculation of Observed Sampling Efficiency

$$\% \text{ Efficiency} = \frac{\text{Equivalent Precipitation Depth (mm)} \times 100\%}{\text{Gauge Depth (mm)}}$$

If the sample collection efficiency is less than 50% or greater than 120% and if any of the field comment codes which affect sample collection efficiency (i.e. "F", "G", "H", "I", "J", "K", "L", "P", and "M") is appended to the sample record, then the sample collection efficiency is flagged as unreliable.

### Field Comment Code Index

A - Insect in sample	J - Event(s) missed
B - Leaves in sample	J - Wet side open when not precipitating
C - Particulates in sample	K - No precipitation collected
D - Fibres in sample	L - Part of event missed
E - Sample not submitted	M - Dry side open when precipitating
G - Sample spilled or leaked	P - Gauge depth incorrect
H - Volume incorrect	Q - Other

### Office Comment Code Index

C - Poor calculated vs. observed conductance comparison	Y - Collection sample remained in excess of 24 hours with event(s) only occurring in the first 24 hours
J - pH Large	Y2 - Sampling period equal to two days
H - Poor calculated vs. observed pH comparison	Y3 - Sampling period equal to three days
M - Poor ionic balance	Y4 - Sampling period equal to four days
N - Abnormal sample collection efficiency	Z - Non-standard collection period with one or more events collection after 24 hours
T - Free H <sup>+</sup> exceeds total H <sup>+</sup>	

Results Remark Code Index

- > - actual results greater than value reported
- < - actual result less than value reported
- <T - actual result less than criterion of detection
- <W - no response, minimum possible results reported
- A - approximate value
- U - unreliable result
- LG - exceedance of Lower Gross Limit Checks
- UG - exceedance of Upper Gross Limit Checks
- D - outlier of Dioxin Ratio Test
- B - exceedance of Gross Limit Checks and Outlier of Dioxin Ratio Tests

PART II

STATION DESCRIPTION AND LOCATION MAP

ONTARIO MINISTRY OF THE ENVIRONMENT  
APIOS-ACIDIC PRECIPITATION IN ONTARIO STUDY  
DAILY PRECIPITATION SITES

STATION ID	MOE REGION	STATION NAME	ELEV (M)	LATITUDE (NORTH)	LONGITUDE (WEST)	UTM GRID CO-ORDINATES (NORTHING) (EASTING)	
000002-02-01-1011	SOUTHWESTERN	LONGWOODS	239	42°53'03"	81°28'50"	4747849	460756
000002-02-01-1021	SOUTHWESTERN	MELBOURNE	213	42°47'12"	81°33'27"	4737061	454401
000002-02-01-1031	SOUTHWESTERN	NORTH EASTHOPE	375	43°24'22"	80°53'45"	4805705	508434
000002-02-01-2011	SOUTHWESTERN	WELLESLEY	344	43°28'05"	80°45'33"	4812606	519481
000002-02-01-2031	SOUTHWESTERN	EGBERT	253	44°13'57"	79°46'53"	4898202	597322
000002-02-01-3011	CENTRAL	DORSET	320	45°13'25"	78°55'51"	5009657	662451
000002-02-01-3021	CENTRAL	NITHGROVE	325	45°12'03"	78°04'12"	5009221	730127
000002-02-01-3031	CENTRAL	BALSAM LAKE	259	44°37'45"	78°51'22"	4943776	670063
000002-02-01-3041	CENTRAL	RAVEN LAKE	274	44°36'40"	78°54'43"	4941655	665686
000002-02-01-4011	SOUTHEASTERN	CHARLESTON LAKE	92	44°29'50"	76°02'40"	4927414	416963
000002-02-01-4021	SOUTHEASTERN	RAILTON	152	44°22'34"	74°34'45"	4913518	533527
000002-02-01-4031	SOUTHEASTERN	GRAHAM LAKE	130	44°34'50"	76°51'45"	4940930	749090
000002-02-01-4081	SOUTHEASTERN	GOLDEN LAKE	160	45°36'48"	77°12'03"	5053226	328397
000002-02-01-4101	SOUTHEASTERN	WILMER	125	44°26'23"	76°31'50"	4921637	378195
000002-02-01-5061	NORTHEASTERN	GOWGANDA	343	47°39'04"	80°46'32"	5277329	516647
000002-02-01-5171	NORTHEASTERN	HIGH FALLS	215	46°22'55"	81°32'43"	5136412	458068
000002-02-01-6051	NORTHWESTERN	FERNBERG	506	47°56'51"	91°29'26"	5311349	612714
000002-02-01-6071	NORTHWESTERN	QUETICO CENTRE	420	48°24'44"	91°12'08"	5363461	633036
000002-02-01-6131	NORTHWESTERN	DAWSON	381	48°33'38"	89°38'60"	5381779	304475
000002-02-01-7011	QUEBEC	SUTTON	243	45°04'35"	72°40'35"	4993846	682898
000002-02-01-7021	PENNSYLVANIA	PENN. STATE	120	40°47'18"	77°56'47"	4519229	251390



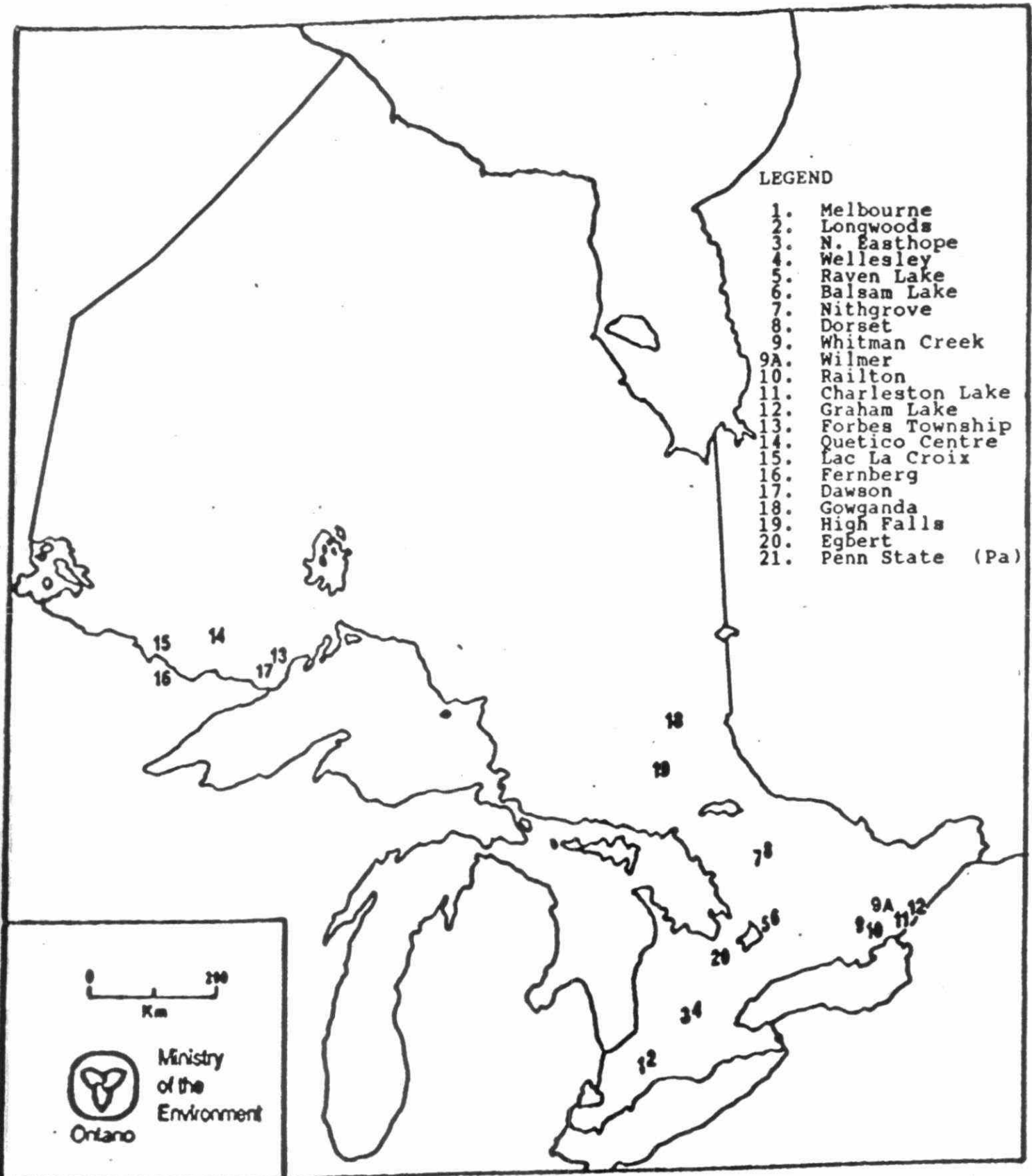
# LEGEND

1. Melbourne
2. Longwoods
3. N. Easthope
4. Wellesley
5. Raven Lake
6. Balsam Lake
7. Nithgrove
8. Dorset
9. Whitman Creek
- 9A. Wilmer
10. Railton
11. Charleston Lake
12. Graham Lake
13. Forbes Township
14. Quetico Centre
15. Lac La Croix
16. Fernberg
17. Dawson
18. Gowganda
19. High Falls
20. Egbert
21. Penn State (Pa)

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PART III  
CENTRAL REGION

DAILY PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 3,87	JAN 2,87	800 930	2200 200	2	1.2	2	42368	2	1	146	N
JAN 7,87	JAN 6,87	800 755	500 730	3	2.2	2	42369	2	1	129	N
JAN 8,87	JAN 7,87	755 755	600 745	2	0.1	2	42370	2	1	31	E N
JAN 9,87	JAN 8,87	755 755	2000 700	2	1.1	2	42371	2	1	114	
JAN 11,87	JAN 10,87	500 945	500 1800	2	8.3	2	42372	2	1	75	
JAN 15,87	JAN 14,87	800 750	500 730	3	0.1	2	42373	2	1	686	N
JAN 18,87	JAN 17,87	800 950	100 900	1	9.0	2	42374	2	1	96	
JAN 21,87	JAN 20,87	800 750	1515 2300	2	0.1	2	42375	2	1	46	E N
JAN 23,87	JAN 22,87	800 755	1800 700	2	2.4	2	42376	2	1	89	
JAN 24,87	JAN 23,87	755 930	1600 600	2	5.4	2	42377	2	1	78	C
JAN 25,87	JAN 24,87	930 1000	1530 300	2	6.2	2	42378	2	1	57	C
JAN 29,87	JAN 28,87	800 755	100 400	2	0.1	2	42379	2	1	296	N
JAN 30,87	JAN 29,87	755 755	400 755	2	3.2	2	42380	2	1	59	M
JAN 31,87	JAN 30,87	755 930	755 700	2	9.1	2	42381	2	1	61	
FEB 2,87	FEB 1,87	800 755	1000 500	2	0.4	2	42382	2	1	273	N
FEB 3,87	FEB 2,87	755 750	200 700	2	3.4	2	42383	2	1	109	
FEB 5,87	FEB 4,87	800 755	1100 1500	2	1.4	2	42384	2	1	69	
FEB 7,87	FEB 6,87	800 930	1700 700	2	1.2	2	42385	2	1	171	N
FEB 8,87	FEB 7,87	930 1030	200 1030	2	14.0	2	42386	2	1	71	
FEB 9,87	FEB 8,87	1030 755	1030 400	2	4.1	2	42387	2	1	24	C N
FEB 10,87	FEB 9,87	755 750	****	2	0.2	2	42388	2	1	226	N
FEB 13,87	FEB 12,87	800 755	1800 2300	2	0.4	2	42389	2	1	249	N
FEB 23,87	FEB 22,87	800 755	1700 700	2	1.0	2	42391	2	1	95	HCM
MAR 1,87	FEB 28,87	800 1030	100 1030	2	2.3	2	42393	2	1	303	N
MAR 2,87	MAR 1,87	1030 755	1030 755	3	22.3	2	42394	2	1	77	
MAR 3,87	MAR 2,87	755 750	1000 730	2	1.4	2	42397	2	1	51	
MAR 26,87	MAR 25,87	800 800	****	1	5.2	2	42398	2	1	116	
MAR 30,87	MAR 29,87	800 755	400 755	1	7.2	2	42399	2	1	127	A N
MAR 31,87	MAR 30,87	755 850	755 850	3	32.0	2	42400	2	1	69	
APR 1,87	MAR 31,87	850 755	850 755	2	10.0	2	42401	2	1	74	
APR 2,87	APR 1,87	755 755	2200 600	2	3.4	2	42402	2	1	30	N
APR 3,87	APR 2,87	755 750	900 600	2	0.3	2	42403	2	1	197	N
APR 5,87	APR 4,87	800 900	1000 600	1	10.0	2	42404	2	1	143	NC
APR 15,87	APR 14,87	800 755	2305 600	1	0.2	2	42405	2	1	530	N
APR 24,87	APR 23,87	800 755	900 1600	1	0.4	1	42406	2	1	140	N
APR 28,87	APR 27,87	800 755	1600 745	1	7.1	1	42407	2	1	98	J
APR 29,87	APR 28,87	755 750	900 500	1	4.2	1	42408	2	1	110	
APR 30,87	APR 29,87	750 755	845 2300	1	4.3	1	42409	2	1	107	J
MAY 11,87	MAY 10,87	800 755	500 745	1	12.1	1	42411	2	1	104	JH
MAY 12,87	MAY 11,87	755 750	200 200	1	5.0	1	42412	2	1	103	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 3,87	JAN 2,87	113.0	7.3		4.77	4.86	*****	0.0283	0.30
JAN 7,87	JAN 6,87	182.0	96.2	LG	3.75	3.73	*****	0.2050	5.65
JAN 8,87	JAN 7,87	2.0	*****		*****	*****	*****	*****	*****
JAN 9,87	JAN 8,87	81.0	30.0		*****	6.71	*****	0.0170	5.80
JAN 11,87	JAN 10,87	404.0	16.8		4.41	4.60	*****	0.0481	0.50
JAN 15,87	JAN 14,87	44.0	> 100.0		*****	3.69	*****	UG 0.2990	6.30
JAN 18,87	JAN 17,87	555.0	D 21.7		4.38	4.54	*****	0.0542	0.65
JAN 21,87	JAN 20,87	3.0	*****		*****	*****	*****	*****	*****
JAN 23,87	JAN 22,87	138.0	31.0		4.19	4.31	*****	0.0756	0.55
JAN 24,87	JAN 23,87	272.0	4.8	UG	5.20	5.49	*****	0.0175	0.25
JAN 25,87	JAN 24,87	228.0	4.7	UG	5.17	5.47	*****	0.0175	0.30
JAN 29,87	JAN 28,87	19.0	27.8		*****	4.45	*****	0.0659	1.35
JAN 30,87	JAN 29,87	122.0	29.5		4.16	4.30	*****	0.0797	0.60
JAN 31,87	JAN 30,87	356.0	39.0		4.09	4.23	*****	0.0991	1.60
FEB 2,87	FEB 1,87	70.0	38.1		*****	4.24	*****	0.0978	1.50
FEB 3,87	FEB 2,87	238.0	25.4		4.36	4.53	*****	0.0604	1.60
FEB 5,87	FEB 4,87	62.0	D 40.2		*****	4.29	*****	D 0.0763	D 3.65
FEB 7,87	FEB 6,87	132.0	19.1		4.52	4.56	*****	0.0478	1.55
FEB 8,87	FEB 7,87	642.0	28.9		4.35	4.46	*****	UG 0.7200	2.50
FEB 9,87	FEB 8,87	64.0	8.3		*****	5.08	*****	UG 0.3790	0.45
FEB 10,87	FEB 9,87	29.0	22.5		*****	4.51	*****	0.0508	1.25
FEB 13,87	FEB 12,87	64.0	29.7		*****	4.17	*****	0.0850	0.80
FEB 23,87	FEB 22,87	61.0	> 100.0		*****	3.47	*****	UG 0.4000	4.70
MAR 1,87	FEB 28,87	448.0	21.7		4.30	4.39	*****	0.0642	1.25
MAR 2,87	MAR 1,87	1102.0	20.6		4.33	4.43	*****	0.0599	1.15
MAR 3,87	MAR 2,87	46.0	12.9		*****	4.70	*****	0.0383	1.15
MAR 26,87	MAR 25,87	389.0	38.0		4.09	4.22	*****	0.0947	2.90
MAR 30,87	MAR 29,87	587.0	D 64.5	D	3.89	4.02	*****	0.1540	D 5.55
MAR 31,87	MAR 30,87	1431.0	14.5		4.43	4.58	*****	0.0515	1.20
APR 1,87	MAR 31,87	480.0	8.3		4.68	4.82	*****	0.0351	0.55
APR 2,87	APR 1,87	67.0	27.0		*****	4.31	*****	0.0794	0.55
APR 3,87	APR 2,87	38.0	44.5		*****	4.15	*****	0.1170	2.45
APR 5,87	APR 4,87	920.0	7.4		4.75	4.94	*****	0.0289	0.45
APR 15,87	APR 14,87	68.0	57.0		*****	3.93	*****	0.1610	7.45
APR 24,87	APR 23,87	36.0	> 100.0		*****	4.44	*****	D 0.1050	UG 23.00
APR 28,87	APR 27,87	450.0	18.0	UG	5.63	UG 6.77	*****	0.0199	2.55
APR 29,87	APR 28,87	297.0	8.0		4.60	4.78	*****	0.0372	1.10
APR 30,87	APR 29,87	295.0	11.0	UG	5.30	4.68	*****	D 0.0424	1.60
MAY 11,87	MAY 10,87	808.0	48.5		4.09	4.59	*****	0.0863	6.90
MAY 12,87	MAY 11,87	331.0	39.5		4.08	D 4.33	*****	0.0759	5.80

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 3,87	JAN 2,87	<T 0.08	0.11	<T 0.005	<T 0.005	0.120	<T 0.005	0.0138
JAN 7,87	JAN 6,87	0.36	0.44	0.055	0.035	0.155	1.670	0.1862
JAN 8,87	JAN 7,87	*****	*****	*****	*****	*****	*****	*****
JAN 9,87	JAN 8,87	2.14	0.29	0.095	0.060	0.150	1.250	B 0.0002
JAN 11,87	JAN 10,87	0.16	0.08	<T 0.005	<T 0.005	<T 0.015	D 0.060	0.0251
JAN 15,87	JAN 14,87	!IS *****	0.73	!IS *****	!IS *****	!IS *****	2.600	0.2042
JAN 18,87	JAN 17,87	<T 0.06	0.14	<T 0.005	<W 0.005	0.030	0.295	0.0288
JAN 21,87	JAN 20,87	*****	*****	*****	*****	*****	*****	*****
JAN 23,87	JAN 22,87	D 0.44	D 0.32	<T 0.025	<T 0.005	D 0.100	0.065	0.0490
JAN 24,87	JAN 23,87	0.12	0.18	<T 0.020	0.025	0.090	<T 0.010	0.0032
JAN 25,87	JAN 24,87	0.16	0.15	<T 0.020	<T 0.010	0.075	<T 0.015	0.0034
JAN 29,87	JAN 28,87	D 0.40	D 0.40	<T 0.020	0.050	D 0.235	0.220	0.0355
JAN 30,87	JAN 29,87	0.10	0.16	<T 0.005	<W 0.005	<T 0.020	<T 0.020	0.0501
JAN 31,87	JAN 30,87	0.18	0.22	<T 0.015	<T 0.015	0.085	0.260	0.0589
FEB 2,87	FEB 1,87	0.26	0.23	<T 0.020	<T 0.015	0.095	0.260	0.0575
FEB 3,87	FEB 2,87	0.18	0.15	<T 0.015	0.025	0.085	0.545	0.0295
FEB 5,87	FEB 4,87	0.78	D 0.52	D 0.090	D 0.090	0.230	D 1.600	0.0513
FEB 7,87	FEB 6,87	0.26	0.24	0.035	<T 0.010	0.075	0.700	0.0275
FEB 8,87	FEB 7,87	0.40	0.30	0.040	<T 0.015	0.080	1.100	0.0347
FEB 9,87	FEB 8,87	0.40	0.22	<T 0.025	0.030	0.090	0.035	0.0083
FEB 10,87	FEB 9,87	0.80	0.24	0.140	0.025	0.155	0.425	0.0309
FEB 13,87	FEB 12,87	0.44	0.33	<T 0.025	<T 0.005	0.155	0.145	0.0676
FEB 23,87	FEB 22,87	0.70	UG 1.29	0.085	0.030	0.165	0.225	LG 0.3388
MAR 1,87	FEB 28,87	<T 0.02	<T 0.03	<T 0.005	<T 0.005	<T 0.005	0.085	0.0407
MAR 2,87	MAR 1,87	<T 0.02	<T 0.04	<T 0.005	<W 0.005	<T 0.015	0.090	0.0372
MAR 3,87	MAR 2,87	0.22	0.09	<T 0.025	<T 0.015	0.060	LG 0.010	0.0200
MAR 26,87	MAR 25,87	0.22	<W 0.01	0.030	<T 0.015	0.045	0.505	0.0603
MAR 30,87	MAR 29,87	D 0.62	D 0.45	D 0.055	0.045	0.045	1.000	0.0955
MAR 31,87	MAR 30,87	<T 0.02	<W 0.01	<W 0.005	<T 0.005	<W 0.005	0.035	0.0263
APR 1,87	MAR 31,87	<T 0.02	<W 0.01	<W 0.005	<T 0.005	<T 0.010	<T 0.020	0.0151
APR 2,87	APR 1,87	0.14	<T 0.05	<T 0.010	<T 0.015	0.030	0.035	0.0490
APR 3,87	APR 2,87	D 0.64	0.55	D 0.080	0.030	0.120	0.240	0.0708
APR 5,87	APR 4,87	<T 0.02	<T 0.02	<W 0.005	<T 0.005	<T 0.025	0.030	0.0115
APR 15,87	APR 14,87	1.40	0.27	0.155	0.060	0.075	0.655	0.1175
APR 24,87	APR 23,87	!IS *****	UG 1.30	!IS *****	!IS *****	!IS *****	3.400	D 0.0363
APR 28,87	APR 27,87	2.04	0.50	0.445	0.070	0.055	0.490	UG 0.0002
APR 29,87	APR 28,87	0.13	<W 0.01	<T 0.005	<T 0.010	<W 0.005	<T 0.025	0.0166
APR 30,87	APR 29,87	0.22	<W 0.01	0.025	0.030	<T 0.020	0.060	0.0209
MAY 11,87	MAY 10,87	1.30	0.27	0.220	0.080	0.045	1.630	0.0257
MAY 12,87	MAY 11,87	0.88	0.20	0.105	0.040	0.095	0.980	D 0.0468

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
MAY 15,87	MAY 14,87	700 750	1600 430	1	20.1	1	42413	2	1	34	N
MAY 22,87	MAY 21,87	800 755	400 700	1	3.2	1	42414	2	1	101	T
MAY 24,87	MAY 23,87	800 945	830 1600	1	3.2	1	42415	2	1	100	
MAY 27,87	MAY 26,87	800 755	1300 6200	1	2.4	1	42416	2	1	112	C
JUN 1,87	MAY 31,87	755 755	1100 1400	1	1.1	1	42417	2	1	93	
JUN 2,87	JUN 1,87	755 755	1800 2300	1	3.1	1	42418	2	1	95	
JUN 6,87	JUN 5,87	800 930	930 1400	1	3.1	1	42419	2	1	70	
JUN 7,87	JUN 6,87	930 1030	2200 700	1	5.1	1	42420	2	1	72	
JUN 8,87	JUN 7,87	1030 755	1530 730	1	12.0	1	42421	2	1	94	J
JUN 9,87	JUN 8,87	755 755	900 400	1	1.1	1	42422	2	1	127	NHM
JUN 10,87	JUN 9,87	755 755	900 1500	1	0.2	1	42423	2	1	93	
JUN 12,87	JUN 11,87	800 930	1530 930	1	11.0	1	42424	2	1	102	
JUN 13,87	JUN 12,87	930 800	1930 2000	1	0.4	1	42425	2	1	54	
JUN 14,87	JUN 13,87	800 800	200 300	1	5.0	1	42426	2	1	95	HM
JUN 19,87	JUN 18,87	800 755	400 500	1	0.2	1	42427	2	1	155	N
JUN 23,87	JUN 22,87	800 755	805 2100	1	3.2	1	42428	2	1	105	
JUN 25,87	JUN 24,87	800 755	200 225	1	3.1	1	42429	2	1	112	
JUN 27,87	JUN 26,87	755 930	810 1300	1	2.3	1	42430	2	1	124	N
JUN 28,87	JUN 27,87	930 1100	1600 1800	1	3.2	1	42431	2	1	110	
JUN 29,87	JUN 28,87	1100 755	545 745	1	6.2	1	42432	2	1	90	
JUN 30,87	JUN 29,87	755 755	515 1400	1	24.4	1	42433	2	1	26	N
JUL 3,87	JUL 2,87	755 755	1500 400	1	0.4	1	42434	2	1	167	N
JUL 4,87	JUL 3,87	755 945	1800 2300	1	14.2	1	42435	2	1	105	
JUL 7,87	JUL 6,87	750 750	1400 2300	1	12.2	1	42436	2	1	110	
JUL 8,87	JUL 7,87	750 755	1800 2300	1	5.0	1	42437	2	1	101	
JUL 14,87	JUL 13,87	800 755	1145 755	1	31.0	1	42438	2	1	112	
JUL 15,87	JUL 14,87	755 755	755 1400	1	4.1	1	42441	2	1	88	CM
JUL 20,87	JUL 19,87	800 755	2230 730	1	12.4	1	42442	2	1	87	
JUL 25,87	JUL 24,87	930 930	1515 1600	1	3.4	1	42443	2	1	55	
JUL 30,87	JUL 29,87	755 755	2230 2350	1	2.3	1	42444	2	1	113	H
AUG 3,87	AUG 2,87	850 850	900 2200	1	4.2	1	42445	2	1	129	N
AUG 8,87	AUG 7,87	850 850	1700 2200	1	5.0	1	42446	2	1	110	
AUG 10,87	AUG 9,87	755 755	845 2000	1	7.1	1	42447	2	1	99	
AUG 16,87	AUG 15,87	800 945	****	1	****	1	42448	2	1	****	HCM
AUG 18,87	AUG 17,87	750 750	****	1	****	1	42449	2	1	****	
AUG 22,87	AUG 21,87	800 750	200 700	1	6.1	1	42450	2	1	105	
AUG 27,87	AUG 26,87	800 755	500 600	1	0.4	1	42451	2	1	304	QP
AUG 29,87	AUG 28,87	800 930	500 600	1	1.3	1	42452	2	1	111	HM
AUG 31,87	AUG 30,87	800 755	200 700	1	7.4	1	42453	2	1	105	
SEP 1,87	AUG 31,87	755 755	200 600	1	2.3	1	42454	2	1	107	C

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
MAY 15,87	MAY 14,87	443.0	47.0	4.21	4.12	*****	0.0971	6.30	0.96
MAY 22,87	MAY 21,87	209.0	82.0	3.81	3.69	*****	0.2030	8.90	1.20
MAY 24,87	MAY 23,87	206.0	52.0	4.09	4.07	*****	0.1100	5.30	1.50
MAY 27,87	MAY 26,87	173.0	> 100.0	LG 3.45	LG 3.38	*****	UG 0.4420	UG 18.40	2.20
JUN 1,87	MAY 31,87	66.0	83.9	*****	3.91	*****	0.1630	14.15	1.86
JUN 2,87	JUN 1,87	190.0	32.3	4.09	4.20	*****	0.0826	3.45	0.91
JUN 6,87	JUN 5,87	141.0	26.2	4.38	4.56	*****	0.0524	3.40	0.71
JUN 7,87	JUN 6,87	238.0	26.2	D 4.38	D 4.55	*****	0.0525	3.40	0.71
JUN 8,87	JUN 7,87	725.0	12.3	4.78	UG 6.34	*****	0.0208	1.60	0.42
JUN 9,87	JUN 8,87	90.0	23.0	*****	4.40	*****	0.0575	3.00	0.26
JUN 10,87	JUN 9,87	12.0	8.0	*****	4.95	*****	0.0291	0.80	0.60
JUN 12,87	JUN 11,87	720.0	54.5	3.87	3.86	*****	0.1400	6.60	0.78
JUN 13,87	JUN 12,87	14.0	13.4	*****	5.06	*****	0.0310	1.35	0.46
JUN 14,87	JUN 13,87	306.0	14.9	4.34	4.57	*****	0.0459	1.35	0.24
JUN 19,87	JUN 18,87	20.0	> 100.0	*****	3.81	*****	0.1960	<=> 14.00	<=> 2.50
JUN 23,87	JUN 22,87	216.0	31.6	4.09	4.18	*****	0.0829	2.75	0.65
JUN 25,87	JUN 24,87	223.0	25.1	4.24	4.42	*****	0.0629	2.30	0.60
JUN 27,87	JUN 26,87	183.0	46.5	3.99	4.06	*****	0.1180	D 6.35	0.50
JUN 28,87	JUN 27,87	227.0	D 96.6	D 3.67	D 3.68	*****	D 0.2510	D 9.75	1.90
JUN 29,87	JUN 28,87	358.0	25.1	4.26	4.43	*****	0.0612	2.25	0.60
JUN 30,87	JUN 29,87	410.0	44.9	4.04	4.11	*****	0.1060	5.45	0.80
JUL 3,87	JUL 2,87	43.0	27.1	*****	4.30	*****	0.0747	1.80	0.60
JUL 4,87	JUL 3,87	961.0	19.9	4.38	4.56	*****	0.0493	2.30	0.25
JUL 7,87	JUL 6,87	868.0	98.6	3.64	3.65	*****	0.2610	10.75	1.15
JUL 8,87	JUL 7,87	325.0	13.8	4.45	4.63	*****	0.0420	0.50	0.25
JUL 14,87	JUL 13,87	2227.0	11.8	4.64	4.87	*****	0.0334	1.40	0.25
JUL 15,87	JUL 14,87	233.0	4.5	4.79	5.23	*****	0.0231	LG 0.30	<T 0.05
JUL 20,87	JUL 19,87	698.0	16.3	4.40	4.59	*****	0.0484	1.55	0.35
JUL 25,87	JUL 24,87	122.0	45.1	D 4.44	4.36	*****	D 0.0722	D 9.10	0.95
JUL 30,87	JUL 29,87	168.0	28.2	4.93	5.16	*****	0.0271	4.35	1.35
AUG 3,87	AUG 2,87	349.0	53.6	3.95	3.88	*****	0.1480	5.55	0.75
AUG 8,87	AUG 7,87	355.0	25.4	4.29	4.33	*****	0.0638	2.85	0.50
AUG 10,87	AUG 9,87	451.0	D 25.4	D 4.31	4.32	*****	D 0.0645	D 2.85	0.50
AUG 16,87	AUG 15,87	56.0	> 100.0	*****	LG 3.22	*****	UG 0.7650	UG 30.20	0.40
AUG 18,87	AUG 17,87	277.0	16.0	*****	4.69	*****	0.0449	2.35	0.33
AUG 22,87	AUG 21,87	414.0	23.0	4.25	4.37	*****	0.0711	2.25	0.43
AUG 27,87	AUG 26,87	78.0	11.0	*****	5.55	*****	0.0253	2.00	0.34
AUG 29,87	AUG 28,87	93.0	14.0	*****	4.75	*****	0.0418	2.15	0.59
AUG 31,87	AUG 30,87	500.0	34.5	4.21	4.19	*****	0.1000	3.90	0.50
SEP 1,87	AUG 31,87	158.0	5.0	UG 5.21	5.51	*****	0.0206	0.45	0.08



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 6

REMOVAL DATE	EXPOSURE DATE		CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
MAY 15,87	MAY 14,87		1.08	0.23	0.185	0.045	0.030	0.970	0.0759
MAY 22,87	MAY 21,87	D	0.66	0.24	D 0.100	0.045	0.120	0.765	0.2042
MAY 24,87	MAY 23,87	D	0.70	0.20	D 0.110	0.070	0.135	1.330	0.0851
MAY 27,87	MAY 26,87		0.62	0.47	D 0.065	0.055	0.130	1.270	LG 0.4169
JUN 1,87	MAY 31,87	B	3.60	0.40	D 0.330	B 0.390	B 0.450	1.300	0.1230
JUN 2,87	JUN 1,87		0.64	0.19	0.070	0.075	0.050	0.610	0.0631
JUN 6,87	JUN 5,87	D	0.84	0.16	0.085	0.075	0.075	0.675	0.0275
JUN 7,87	JUN 6,87		0.88	0.15	0.085	0.075	0.070	0.675	D 0.0282
JUN 8,87	JUN 7,87		0.36	0.09	0.060	0.050	<T 0.015	0.740	UG 0.0005
JUN 9,87	JUN 8,87		0.74	0.17	0.060	0.070	UG 0.490	0.195	0.0398
JUN 10,87	JUN 9,87		0.16	0.09	<T 0.005	<T 0.010	!IR *****	<W 0.005	0.0112
JUN 12,87	JUN 11,87		0.82	0.23	0.105	0.050	0.055	0.485	0.1380
JUN 13,87	JUN 12,87		0.48	0.16	0.080	0.070	0.135	0.245	0.0087
JUN 14,87	JUN 13,87		0.20	0.06	0.040	<T 0.025	<T 0.010	0.220	0.0269
JUN 19,87	JUN 18,87	B	6.20	D 0.50	0.585	0.180	0.130	1.450	0.1549
JUN 23,87	JUN 22,87		0.44	0.15	0.030	<T 0.005	<T 0.015	0.240	0.0661
JUN 25,87	JUN 24,87		0.32	<T 0.05	0.065	0.030	<T 0.010	0.455	0.0380
JUN 27,87	JUN 26,87		0.24	<W 0.01	<T 0.015	0.025	<T 0.020	0.900	0.0871
JUN 28,87	JUN 27,87	D	1.22	D 0.35	D 0.120	0.125	0.030	D 0.630	D 0.2089
JUN 29,87	JUN 28,87		0.32	<T 0.05	0.065	<T 0.020	<T 0.010	0.470	0.0372
JUN 30,87	JUN 29,87		0.88	0.10	0.145	0.030	0.025	0.535	0.0776
JUL 3,87	JUL 2,87	!IS *****	<W 0.01	!IS *****	!IS *****	!IS *****	!IS *****	0.160	0.0501
JUL 4,87	JUL 3,87		0.24	<T 0.05	0.035	<T 0.015	<T 0.010	0.465	0.0275
JUL 7,87	JUL 6,87		0.44	0.20	0.040	0.025	0.030	0.650	0.2239
JUL 8,87	JUL 7,87	<T	0.04	<T 0.05	<W 0.005	<T 0.010	<T 0.015	0.110	0.0234
JUL 14,87	JUL 13,87		0.22	0.10	0.030	<T 0.015	0.040	0.230	0.0135
JUL 15,87	JUL 14,87	<T	0.04	<T 0.05	<T 0.005	<W 0.005	<W 0.005	<T 0.010	0.0059
JUL 20,87	JUL 19,87		0.34	0.10	0.040	<T 0.010	<T 0.025	0.155	0.0257
JUL 25,87	JUL 24,87	D	2.40	0.25	D 0.370	0.165	0.085	D 0.900	0.0437
JUL 30,87	JUL 29,87		2.90	0.30	0.520	0.075	0.035	0.210	0.0069
AUG 3,87	AUG 2,87		0.40	0.15	0.040	0.040	<T 0.020	D 0.640	0.1318
AUG 8,87	AUG 7,87		0.46	D 0.10	D 0.045	<T 0.020	<T 0.010	0.320	0.0468
AUG 10,87	AUG 9,87	D	0.50	0.10	D 0.045	<T 0.025	<T 0.010	D 0.320	0.0479
AUG 16,87	AUG 15,87		2.08	UG 1.90	0.350	0.110	0.295	2.150	LG 0.6026
AUG 18,87	AUG 17,87		0.34	0.07	0.045	0.030	0.040	0.415	0.0204
AUG 22,87	AUG 21,87		0.22	<W 0.01	D 0.025	0.035	0.025	0.260	0.0427
AUG 27,87	AUG 26,87		0.92	0.13	0.150	0.115	0.085	<T 0.020	0.0028
AUG 29,87	AUG 28,87		1.50	0.14	0.110	0.035	0.050	0.060	0.0178
AUG 31,87	AUG 30,87		0.50	0.10	0.045	0.050	<T 0.005	0.475	0.0646
SEP 1,87	AUG 31,87		0.22	<T 0.02	<T 0.015	<T 0.015	<T 0.010	<W 0.005	0.0031



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
SEP 9,87	SEP 8,87	755 755	600 930	1	4.3	1	42455	2	1	103	
SEP 10,87	SEP 9,87	755 755	930 1000	1	0.3	1	42456	2	1	176	N
SEP 12,87	SEP 11,87	755 755	2300 200	1	6.1	1	42457	2	1	85	C
SEP 14,87	SEP 13,87	755 755	1845 1950	1	1.3	1	42458	2	1	117	
SEP 18,87	SEP 17,87	755 755	200 700	1	1.1	1	42459	2	1	62	
SEP 20,87	SEP 19,87	800 930	1000 1900	1	8.3	1	42460	2	1	81	
SEP 21,87	SEP 20,87	930 755	1700 700	1	6.1	1	42463	2	1	112	
SEP 22,87	SEP 21,87	755 750	1000 1400	1	2.3	1	42464	2	1	112	
SEP 28,87	SEP 27,87	755 755	1800 2300	1	4.0	1	42465	2	1	91	Q
SEP 30,87	SEP 29,87	800 930	1500 810	1	13.1	1	42466	2	1	102	A H
OCT 1,87	SEP 30,87	930 755	1830 2330	1	4.1	1	42469	2	1	126	N
OCT 2,87	OCT 1,87	755 750	1800 700	1	4.4	1	42470	2	1	129	C N
OCT 3,87	OCT 2,87	750 1000	1730 600	1	1.2	1	42471	2	1	115	
OCT 6,87	OCT 5,87	800 755	500 600	1	0.2	1	42472	2	1	15	E N
OCT 8,87	OCT 7,87	750 750	1300 730	1	12.1	1	42473	2	1	97	
OCT 10,87	OCT 9,87	755 755	830 1100	1	2.2	1	42476	2	1	102	
OCT 19,87	OCT 18,87	755 755	800 100	1	5.3	1	42477	2	1	100	
OCT 20,87	OCT 19,87	755 750	500 700	1	0.3	1	42478	2	1	135	N
OCT 21,87	OCT 20,87	750 755	1300 700	1	2.0	1	42479	2	1	106	
OCT 23,87	OCT 22,87	755 750	2000 600	1	12.3	1	42480	2	1	91	
OCT 25,87	OCT 24,87	750 900	1300 700	1	18.0	1	42481	2	1	81	
OCT 28,87	OCT 27,87	750 755	1000 1800	1	8.3	1	42482	2	1	84	
OCT 29,87	OCT 28,87	755 750	600 730	1	0.1	2	42483	2	1	249	N
OCT 30,87	OCT 29,87	750 755	900 745	1	0.3	2	42484	2	1	421	NH
OCT 31,87	OCT 30,87	755 930	800 1700	1	0.2	2	42485	2	1	546	N
NOV 3,87	NOV 2,87	755 755	300 755	1	4.0	2	42486	2	1	136	N
NOV 4,87	NOV 3,87	755 750	755 1700	1	6.0	2	42487	2	1	117	
NOV 5,87	NOV 4,87	750 750	1400 600	1	7.0	2	42488	2	1	87	M
NOV 6,87	NOV 5,87	750 755	1300 745	3	1.8	2	42489	2	1	102	NH
NOV 8,87	NOV 7,87	755 850	1600 500	2	16.0	2	42490	2	1	40	NH
NOV 9,87	NOV 8,87	858 755	1000 2300	1	6.3	2	42491	2	1	232	NH
NOV 12,87	NOV 11,87	755 755	400 700	3	0.4	2	42494	2	1	245	N
NOV 18,87	NOV 17,87	755 750	1400 600	1	5.3	2	42495	2	1	91	
NOV 24,87	NOV 23,87	755 755	1500 700	1	2.2	2	42496	2	1	174	N
NOV 26,87	NOV 25,87	755 755	815 1100	2	38.2	2	42497	2	1	25	NC
NOV 29,87	NOV 28,87	755 1030	400 1000	1	13.2	2	42498	2	1	98	
NOV 30,87	NOV 29,87	1030 755	1300 600	1	2.3	2	42499	2	1	111	
DEC 8,87	DEC 7,87	800 755	500 755	1	0.4	2	76201	2	1	U 448	P
DEC 9,87	DEC 8,87	755 755	755 755	1	5.3	2	76202	2	1	****	GE
DEC 10,87	DEC 9,87	755 750	755 600	1	2.2	2	76203	2	1	153	NH

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
SEP 9,87	SEP 8,87	284.0	22.0	4.35	4.36	*****	0.0635	2.00	0.38
SEP 10,87	SEP 9,87	34.0	!IS *****	*****	4.07	*****	0.1020	!IS *****	!IS *****
SEP 12,87	SEP 11,87	333.0	D 3.5	3.74	3.76	*****	0.2040	8.00	0.76
SEP 14,87	SEP 13,87	98.0	D 70.0	3.86	3.89	*****	D 0.1590	D 7.15	1.04
SEP 18,87	SEP 17,87	44.0	47.5	*****	4.17	*****	0.1200	7.15	0.75
SEP 20,87	SEP 19,87	433.0	39.6	4.04	4.09	*****	0.1100	3.85	0.51
SEP 21,87	SEP 20,87	439.0	31.2	4.13	4.17	*****	0.0920	2.50	0.35
SEP 22,87	SEP 21,87	166.0	29.7	4.17	4.25	*****	0.0801	3.10	0.46
SEP 28,87	SEP 27,87	235.0	25.0	4.22	4.34	*****	0.0690	2.55	0.49
SEP 30,87	SEP 29,87	862.0	35.6	4.11	4.24	*****	0.0858	4.90	0.52
OCT 1,87	SEP 30,87	333.0	12.4	4.52	4.61	*****	0.0431	1.00	<T 0.05
OCT 2,87	OCT 1,87	364.0	44.0	UG 6.85	UG 7.03	*****	0.0226	7.65	1.69
OCT 3,87	OCT 2,87	89.0	7.4	*****	UG 6.74	*****	0.0164	1.20	0.12
OCT 6,87	OCT 5,87	2.0	*****	*****	*****	*****	*****	*****	*****
OCT 8,87	OCT 7,87	757.0	10.0	4.58	4.67	*****	0.0386	0.85	0.27
OCT 10,87	OCT 9,87	144.0	48.5	4.23	4.38	*****	0.0793	6.30	1.93
OCT 19,87	OCT 18,87	342.0	32.5	4.18	4.23	*****	D 0.0791	3.00	0.61
OCT 20,87	OCT 19,87	26.0	52.5	*****	4.06	*****	0.1140	5.10	1.44
OCT 21,87	OCT 20,87	137.0	83.0	3.69	3.75	*****	0.2180	D 8.65	1.87
OCT 23,87	OCT 22,87	722.0	25.0	4.21	4.31	*****	0.0769	1.80	0.79
OCT 25,87	OCT 24,87	937.0	48.0	3.92	4.03	*****	D 0.1370	3.70	1.21
OCT 28,87	OCT 27,87	450.0	35.0	4.05	4.16	*****	0.1050	4.00	0.47
OCT 29,87	OCT 28,87	16.0	5.0	*****	5.20	*****	0.0240	0.75	0.31
OCT 30,87	OCT 29,87	81.0	28.0	*****	D 4.87	*****	0.0384	3.00	1.83
OCT 31,87	OCT 30,87	70.0	65.0	*****	4.02	*****	0.1600	4.35	2.67
NOV 3,87	NOV 2,87	350.0	20.0	D 4.28	D 4.49	*****	D 0.0614	D 2.40	0.48
NOV 4,87	NOV 3,87	453.0	20.0	4.28	4.47	*****	0.0618	2.40	0.46
NOV 5,87	NOV 4,87	394.0	20.0	4.29	4.47	*****	0.0622	2.45	0.48
NOV 6,87	NOV 5,87	118.0	LG 2.5	UG 5.15	5.50	*****	0.0188	0.85	<T 0.01
NOV 8,87	NOV 7,87	412.0	19.0	4.34	4.47	*****	0.0625	1.50	0.58
NOV 9,87	NOV 8,87	938.0	8.0	4.66	4.87	*****	0.0346	1.00	0.22
NOV 12,87	NOV 11,87	63.0	24.0	*****	4.52	*****	0.0592	2.05	1.03
NOV 18,87	NOV 17,87	312.0	27.0	4.20	4.32	*****	0.0778	2.25	0.56
NOV 24,87	NOV 23,87	246.0	32.0	4.71	D 4.75	*****	D 0.0496	4.55	1.50
NOV 26,87	NOV 25,87	619.0	LG 3.0	UG 5.08	5.05	*****	0.0216	<T 0.20	0.13
NOV 29,87	NOV 28,87	836.0	8.0	4.76	4.68	*****	0.0327	0.70	0.13
NOV 30,87	NOV 29,87	165.0	D 43.0	3.97	4.01	*****	D 0.1310	D 2.20	1.10
DEC 8,87	DEC 7,87	115.0	16.5	4.56	4.54	*****	0.0438	2.00	0.51
DEC 9,87	DEC 8,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 10,87	DEC 9,87	216.0	27.5	4.21	4.12	*****	D 0.0835	2.45	0.32

#06

**PAGE : 9**

REMOVAL DATE	EXPOSURE DATE	CALCIUM	CHLORIDE	MAGNESIUM	POTASSIUM	SODIUM	AMMONIUM AS N	FREE H+
		MG/L	MG/L	MG/L	MG/L	MG/L	MG/L	LAB MG/L
SEP 9,87	SEP 8,87	0.34	0.07	0.030	0.025	<T	0.010	0.0437
SEP 10,87	SEP 9,87	0.20	!IS *****	<T 0.015	0.035		0.035	0.0851
SEP 12,87	SEP 11,87	0.20	0.21	<T 0.020	0.030	<T	0.005	0.1738
SEP 14,87	SEP 13,87	0.40	0.21	0.045	0.075	<T	0.020	0.1288
SEP 18,87	SEP 17,87	2.00	0.23	0.180	0.155		0.130	0.0676
SEP 20,87	SEP 19,87	0.42	<T 0.03	0.025	<T 0.020	<T	0.015	0.0813
SEP 21,87	SEP 20,87	<T 0.08	<T 0.02	<W 0.005	<T 0.020	<T	0.015	0.0676
SEP 22,87	SEP 21,87	0.30	<T 0.04	0.035	0.075	<T	0.015	0.0562
SEP 28,87	SEP 27,87	0.48	<T 0.04	0.050	0.030	<T	0.015	0.0457
SEP 30,87	SEP 29,87	1.14	0.15	0.135	0.030		0.025	0.0575
OCT 1,87	SEP 30,87	<W 0.02	<T 0.03	<T 0.010	<T 0.005	<T	0.005	0.0245
OCT 2,87	OCT 1,87	UG 3.10	0.34	0.510	0.315		0.190	0.0001
OCT 3,87	OCT 2,87	0.64	0.11	0.065	0.030		0.025	0.0002
OCT 6,87	OCT 5,87	*****	*****	*****	*****	*****	*****	*****
OCT 8,87	OCT 7,87	0.16	<W 0.01	<T 0.020	<W 0.005	<T	0.010	0.0214
OCT 10,87	OCT 9,87	2.64	0.54	0.270	0.200		0.135	0.0417
OCT 19,87	OCT 18,87	0.40	0.28	0.035	<T 0.020	<T	0.020	0.0589
OCT 20,87	OCT 19,87	0.76	0.28	0.085	0.075		0.075	0.0871
OCT 21,87	OCT 20,87	0.50	!LA *****	0.060	0.040		0.025	0.1778
OCT 23,87	OCT 22,87	0.18	0.19	0.030	<T 0.010	<T	0.005	0.0490
OCT 25,87	OCT 24,87	0.38	0.16	0.040	0.060	<T	0.025	0.0933
OCT 28,87	OCT 27,87	0.14	0.18	<T 0.010	<T 0.020	<T	0.015	0.0692
OCT 29,87	OCT 28,87	!IS *****	0.13	!IS *****	!IS *****	!IS *****	<T 0.015	0.0063
OCT 30,87	OCT 29,87	2.06	0.53	0.200	0.090		0.050	0.0135
OCT 31,87	OCT 30,87	1.50	0.44	0.185	0.115		0.070	0.0955
NOV 3,87	NOV 2,87	0.16	0.13	<T 0.020	<T 0.010		0.030	0.0324
NOV 4,87	NOV 3,87	0.12	0.15	<T 0.015	<T 0.015		0.030	0.0339
NOV 5,87	NOV 4,87	<T 0.10	0.23	<T 0.015	<T 0.015		0.030	0.0339
NOV 6,87	NOV 5,87	<T 0.08	<T 0.01	<T 0.015	<T 0.020	<T	0.015	0.0032
NOV 8,87	NOV 7,87	<T 0.06	<T 0.01	<W 0.005	<T 0.015	<T	0.005	0.0339
NOV 9,87	NOV 8,87	<T 0.06	<T 0.01	<T 0.010	<T 0.005	<T	0.015	0.0135
NOV 12,87	NOV 11,87	D 0.64	0.11	0.070	0.035		0.050	0.0302
NOV 18,87	NOV 17,87	0.26	0.31	0.035	<T 0.015		0.145	0.0479
NOV 24,87	NOV 23,87	1.88	0.54	0.190	0.090		0.265	0.0178
NOV 26,87	NOV 25,87	<T 0.06	<T 0.02	<W 0.005	<W 0.005	<T	0.005	0.0089
NOV 29,87	NOV 28,87	<T 0.04	<T 0.04	<W 0.005	<W 0.005	<T	0.015	0.0209
NOV 30,87	NOV 29,87	0.14	0.06	<T 0.005	<W 0.005	<T	0.020	0.0977
DEC 8,87	DEC 7,87	0.80	0.11	0.055	<T 0.015		0.070	0.0288
DEC 9,87	DEC 8,87	*****	*****	*****	*****	*****	*****	*****
DEC 10,87	DEC 9,87	D 0.18	0.22	<T 0.025	<T 0.010	D	0.080	0.0750

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
DEC 11,87	DEC 10,87	750 755	900 1800	1	0.3	2	76204	2	1	468	N
DEC 12,87	DEC 11,87	755 930	1400 900	3	3.1	2	76205	2	1	88	
DEC 13,87	DEC 12,87	930 1000	1730 600	3	6.3	2	76206	2	1	69	
DEC 16,87	DEC 15,87	800 755	915 200	2	23.5	2	76207	2	1	38	N
DEC 20,87	DEC 19,87	755 950	100 900	3	8.0	1	76208	2	1	86	
DEC 21,87	DEC 20,87	950 755	1100 1700	3	20.0	2	76209	2	1	65	
DEC 23,87	DEC 22,87	755 755	2000 700	2	1.3	2	76210	2	1	116	H
DEC 25,87	DEC 24,87	1000 1000	**** ****	1	****	2	76211	2	1	****	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 11

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
DEC 11,87	DEC 10,87	90.0	D 25.0	*****	D 4.36	*****	D 0.0720	1.50	0.81
DEC 12,87	DEC 11,87	176.0	D 25.5	D 4.32	D 4.37	*****	D 0.0698	1.55	0.82
DEC 13,87	DEC 12,87	282.0	8.0	4.84	4.99	*****	0.0300	0.80	0.36
DEC 16,87	DEC 15,87	581.0	15.5	4.46	4.53	*****	0.0505	0.75	0.52
DEC 20,87	DEC 19,87	446.0	33.0	4.13	D 4.20	*****	D 0.0919	2.10	0.68
DEC 21,87	DEC 20,87	834.0	16.5	4.44	4.52	*****	0.0508	1.05	0.34
DEC 23,87	DEC 22,87	97.0	17.0	*****	B 6.37	*****	0.0208	1.65	1.15
DEC 25,87	DEC 24,87	432.0	20.0	*****	4.42	*****	0.0658	1.45	0.39

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : BALSAM LAKE/DAILY/AEROCHEM

#06

PAGE : 12

REMOVAL DATE	EXPOSURE DATE		CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
DEC 11,87	DEC 10,87	D	0.26	<T 0.01	<T 0.020	<T 0.010	0.025	D 0.340	D 0.0437
DEC 12,87	DEC 11,87		0.28	0.10	<T 0.020	<T 0.010	<T 0.025	0.350	D 0.0427
DEC 13,87	DEC 12,87		0.24	<T 0.01	<T 0.010	<T 0.005	<T 0.010	0.165	0.0102
DEC 16,87	DEC 15,87		0.18	<T 0.01	<T 0.010	<T 0.005	<T 0.010	0.080	0.0295
DEC 20,87	DEC 19,87	D	0.20	0.21	D 0.025	<T 0.020	D 0.060	0.125	D 0.0631
DEC 21,87	DEC 20,87	<T	0.08	0.11	<T 0.010	<T 0.005	<T 0.025	0.065	0.0302
DEC 23,87	DEC 22,87	D	1.88	0.26	D 0.145	D 0.085	0.085	0.165	B 0.0004
DEC 25,87	DEC 24,87		0.22	0.07	<T 0.010	<W 0.005	<T 0.010	0.165	0.0380

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 7,87	JAN 6,87	730 830	2400 800	2	1.4	2	45469	2	1	95	
JAN 9,87	JAN 8,87	800 800	1000 500	2	2.6	2	45472	2	1	93	
JAN 12,87	JAN 9,87	800 800	530 1200	3	3.8	2	45475	2	1	61	Y3
JAN 13,87	JAN 12,87	800 800	800 1200	3	0.3	2	45478	2	1	72	
JAN 15,87	JAN 14,87	800 830	****	3	0.2	2	45481	2	1	15	E N
JAN 16,87	JAN 15,87	830 1000	1100 2100	3	0.2	2	45484	2	1	93	
JAN 19,87	JAN 17,87	800 830	300 1900	2	6.6	2	45487	2	1	85	Y2
JAN 21,87	JAN 20,87	800 800	1900 800	2	2.5	2	45490	2	1	76	
JAN 22,87	JAN 21,87	800 800	800 1800	2	1.9	2	45493	2	1	71	
JAN 23,87	JAN 22,87	800 800	1800 800	2	3.6	2	45496	2	1	77	
JAN 24,87	JAN 23,87	800 1100	800 1100	2	0.2	2	45499	2	1	31	E N
JAN 28,87	JAN 26,87	800 1250	400 1250	2	0.2	2	45502	2	1	116	Y2
JAN 29,87	JAN 28,87	1250 800	1250 400	2	0.5	2	45505	2	1	84	
FEB 2,87	JAN 30,87	800 800	800 800	3	13.0	2	45508	2	1	67	Y3
FEB 3,87	FEB 2,87	800 830	2200 830	3	1.5	2	45511	2	1	84	
FEB 4,87	FEB 3,87	830 900	830 1530	2	0.7	2	45514	2	1	57	
FEB 5,87	FEB 4,87	900 800	900 1500	2	1.8	2	45517	2	1	115	U F
FEB 6,87	FEB 5,87	800 800	1800 2200	2	1.6	2	45520	2	1	86	
FEB 7,87	FEB 6,87	800 900	1400 100	2	2.4	2	45523	2	1	66	
FEB 9,87	FEB 7,87	900 800	2400 1500	2	19.4	2	45526	2	1	53	Y2
FEB 10,87	FEB 9,87	800 800	2200 800	2	0.4	2	45529	2	1	74	
FEB 13,87	FEB 12,87	830 800	1800 2200	2	1.5	2	45532	2	1	72	
FEB 23,87	FEB 22,87	800 830	100 500	2	0.2	2	45537	2	1	93	
MAR 2,87	FEB 28,87	800 800	30 800	3	22.6	2	45540	2	1	79	Y2
MAR 3,87	MAR 2,87	800 730	800 1200	2	1.4	2	45545	2	1	46	
MAR 4,87	MAR 3,87	730 745	1200 2400	2	0.2	2	45548	2	1	46	E N
MAR 26,87	MAR 25,87	930 830	230 830	1	3.7	2	45552	2	1	134	N
MAR 27,87	MAR 26,87	830 830	830 1200	1	3.2	1	45555	2	1	75	
MAR 30,87	MAR 29,87	800 745	2300 745	1	11.4	1	45558	2	1	107	
APR 1,87	MAR 30,87	745 1000	1700 2200	3	37.0	4	45561	2	1	57	Y2
APR 2,87	APR 1,87	1000 800	2000 800	2	6.0	2	45566	2	1	40	N
APR 3,87	APR 2,87	800 800	1600 800	2	2.6	2	45569	2	1	43	N
APR 5,87	APR 4,87	830 815	2300 815	1	4.3	2	45572	2	1	123	Q NC
APR 6,87	APR 5,87	815 800	100 400	1	0.1	2	45575	2	1	187	N
APR 13,87	APR 12,87	815 750	1630 1900	1	4.8	1	45579	2	1	101	
APR 22,87	APR 21,87	755 900	1500 1700	1	0.4	1	45582	2	1	77	H
APR 24,87	APR 23,87	750 740	1900 2100	1	1.6	1	45585	2	1	83	C
APR 28,87	APR 27,87	745 750	1630 2030	1	7.8	1	45588	2	1	101	Q
APR 29,87	APR 28,87	750 800	1230 2030	1	3.1	1	45591	2	1	105	J
APR 30,87	APR 29,87	800 800	1800 2200	1	4.3	1	45594	2	1	90	C

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 7,87	JAN 6,87	86.0	78.9	*****	3.75	*****	0.1940	5.60	2.50
JAN 9,87	JAN 8,87	156.0	29.0	*****	4.21	*****	0.0746	3.30	0.36
JAN 12,87	JAN 9,87	149.0	23.6	4.26	4.29	*****	0.0695	1.10	0.62
JAN 13,87	JAN 12,87	14.0	7.8	*****	4.87	*****	0.0284	0.75	LG 0.07
JAN 15,87	JAN 14,87	2.0	*****	*****	*****	*****	*****	*****	*****
JAN 16,87	JAN 15,87	12.0	29.3	*****	4.28	*****	0.0724	2.60	0.59
JAN 19,87	JAN 17,87	361.0	14.7	4.49	4.49	*****	0.0428	LG 0.20	0.42
JAN 21,87	JAN 20,87	123.0	23.3	4.34	4.31	*****	0.0590	0.70	0.67
JAN 22,87	JAN 21,87	87.0	14.8	*****	4.52	*****	0.0416	0.80	0.34
JAN 23,87	JAN 22,87	178.0	39.2	4.06	4.02	*****	0.1010	0.30	1.20
JAN 24,87	JAN 23,87	4.0	*****	*****	*****	*****	*****	*****	*****
JAN 28,87	JAN 26,87	15.0	15.4	*****	!IR *****	*****	!IR *****	0.30	0.44
JAN 29,87	JAN 28,87	27.0	35.1	*****	4.09	*****	0.0890	1.35	0.88
FEB 2,87	JAN 30,87	566.0	34.3	4.16	4.10	*****	0.0892	1.30	0.93
FEB 3,87	FEB 2,87	81.0	23.5	*****	4.29	*****	0.0685	1.30	0.54
FEB 4,87	FEB 3,87	26.0	24.7	*****	4.23	*****	0.0712	1.50	0.41
FEB 5,87	FEB 4,87	133.0	4.7	5.01	5.10	*****	0.0258	0.25	LG 0.05
FEB 6,87	FEB 5,87	89.0	21.5	*****	4.43	*****	0.0621	0.65	0.65
FEB 7,87	FEB 6,87	103.0	44.1	4.18	4.21	*****	0.0853	3.15	1.43
FEB 9,87	FEB 7,87	661.0	21.6	4.32	4.36	*****	0.0604	0.65	0.70
FEB 10,87	FEB 9,87	19.0	12.0	*****	4.70	*****	0.0358	0.45	0.43
FEB 13,87	FEB 12,87	70.0	46.2	*****	4.00	*****	0.1180	0.80	1.41
FEB 23,87	FEB 22,87	12.0	25.5	*****	4.25	*****	0.0698	0.55	0.78
MAR 2,87	FEB 28,87	1147.0	14.4	4.46	4.51	*****	0.0515	0.75	0.26
MAR 3,87	MAR 2,87	42.0	15.4	*****	4.52	*****	0.0490	0.90	0.26
MAR 4,87	MAR 3,87	6.0	*****	*****	*****	*****	*****	*****	*****
MAR 26,87	MAR 25,87	319.0	43.0	4.00	4.14	*****	0.1160	2.95	0.86
MAR 27,87	MAR 26,87	154.0	51.5	3.94	4.07	*****	0.1280	3.85	1.09
MAR 30,87	MAR 29,87	783.0	42.0	3.99	4.13	*****	0.1130	3.40	0.69
APR 1,87	MAR 30,87	1370.0	10.5	4.55	4.72	*****	0.0390	0.90	LG 0.09
APR 2,87	APR 1,87	154.0	27.0	4.18	4.20	*****	0.0792	0.70	0.77
APR 3,87	APR 2,87	73.0	43.0	*****	4.10	*****	0.1160	2.70	0.85
APR 5,87	APR 4,87	340.0	7.0	4.84	5.17	*****	0.0255	0.60	LG 0.07
APR 6,87	APR 5,87	12.0	4.5	*****	!IR *****	*****	LG 0.0120	0.30	<T 0.04
APR 13,87	APR 12,87	312.0	57.0	3.83	3.93	*****	0.1640	6.35	1.39
APR 22,87	APR 21,87	20.0	26.0	*****	UG 6.46	*****	0.0210	6.55	0.99
APR 24,87	APR 23,87	86.0	> 100.0	*****	LG 3.41	*****	UG 0.4310	UG 14.10	2.95
APR 28,87	APR 27,87	509.0	15.0	4.45	4.68	*****	0.0415	1.65	0.51
APR 29,87	APR 28,87	209.0	8.0	UG 5.05	UG 6.11	*****	0.0197	1.20	0.34
APR 30,87	APR 29,87	250.0	39.0	UG 6.64	UG 7.29	*****	0.0199	5.55	1.10



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 7,87	JAN 6,87	0.76	0.70	0.110	0.045	0.280	1.500	0.1778
JAN 9,87	JAN 8,87	0.12	0.10	<T 0.015	<T 0.020	0.045	0.445	0.0617
JAN 12,87	JAN 9,87	<T 0.06	0.12	<T 0.010	<T 0.005	0.040	0.150	0.0513
JAN 13,87	JAN 12,87	!IS *****	0.06	!IS *****	!IS *****	!IS *****	!IS *****	0.0135
JAN 15,87	JAN 14,87	*****	*****	*****	*****	*****	*****	*****
JAN 16,87	JAN 15,87	0.14	0.14	<T 0.020	0.040	0.080	0.600	0.0525
JAN 19,87	JAN 17,87	<T 0.06	0.10	<T 0.005	<W 0.005	<T 0.020	<T 0.010	0.0324
JAN 21,87	JAN 20,87	0.10	0.16	<T 0.015	<T 0.010	0.070	0.155	0.0490
JAN 22,87	JAN 21,87	<T 0.08	0.15	<T 0.020	<T 0.010	0.085	0.085	0.0302
JAN 23,87	JAN 22,87	<T 0.08	0.19	<T 0.005	<T 0.005	0.040	<T 0.025	0.0955
JAN 24,87	JAN 23,87	*****	*****	*****	*****	*****	*****	*****
JAN 28,87	JAN 26,87	<T 0.10	0.18	<T 0.010	<W 0.005	0.080	<T 0.010	!IR *****
JAN 29,87	JAN 28,87	<T 0.08	0.25	<T 0.010	<T 0.015	0.100	0.260	0.0813
FEB 2,87	JAN 30,87	0.16	0.19	<T 0.020	<T 0.025	0.075	0.300	0.0794
FEB 3,87	FEB 2,87	<T 0.08	0.18	<T 0.010	<T 0.025	0.080	0.315	0.0513
FEB 4,87	FEB 3,87	<T 0.06	0.20	<T 0.005	0.025	0.080	0.125	0.0589
FEB 5,87	FEB 4,87	<W 0.02	0.06	<T 0.005	<W 0.005	<T 0.020	<T 0.010	0.0079
FEB 6,87	FEB 5,87	0.18	0.25	0.040	<T 0.015	0.065	0.175	0.0372
FEB 7,87	FEB 6,87	0.20	0.34	0.035	0.030	0.125	1.250	0.0617
FEB 9,87	FEB 7,87	<T 0.08	0.16	<T 0.010	<T 0.010	<T 0.020	0.240	0.0437
FEB 10,87	FEB 9,87	0.18	0.16	0.040	<T 0.015	0.085	0.080	0.0200
FEB 13,87	FEB 12,87	0.18	0.57	<T 0.015	<T 0.010	0.210	0.140	0.1000
FEB 23,87	FEB 22,87	0.14	0.20	0.030	0.070	0.100	<T 0.020	0.0562
MAR 2,87	FEB 28,87	<W 0.02	<T 0.02	<W 0.005	<W 0.005	<T 0.010	0.045	0.0309
MAR 3,87	MAR 2,87	<T 0.10	0.15	<T 0.015	0.030	0.105	LG 0.010	0.0302
MAR 4,87	MAR 3,87	*****	*****	*****	*****	*****	*****	*****
MAR 26,87	MAR 25,87	D 0.34	D 0.18	0.040	0.030	0.050	0.350	0.0724
MAR 27,87	MAR 26,87	0.20	0.17	<T 0.010	0.100	0.080	0.780	0.0851
MAR 30,87	MAR 29,87	0.20	<W 0.01	<T 0.025	0.045	0.045	0.375	0.0741
APR 1,87	MAR 30,87	<T 0.02	<W 0.01	<W 0.005	<T 0.010	<T 0.010	<T 0.020	0.0191
APR 2,87	APR 1,87	<T 0.04	0.08	<T 0.005	<T 0.010	<T 0.020	0.060	0.0631
APR 3,87	APR 2,87	0.18	<W 0.01	<T 0.010	<T 0.020	0.050	0.340	0.0794
APR 5,87	APR 4,87	<T 0.02	0.15	<T 0.005	0.050	D 0.180	0.030	0.0068
APR 6,87	APR 5,87	<T 0.02	0.11	<T 0.005	0.030	0.115	<W 0.005	!IR *****
APR 13,87	APR 12,87	0.78	0.36	0.100	0.125	0.110	0.950	0.1175
APR 22,87	APR 21,87	1.50	0.32	0.235	UG 0.275	0.140	1.950	UG 0.0003
APR 24,87	APR 23,87	0.88	0.78	0.115	0.155	0.180	2.000	LG 0.3890
APR 28,87	APR 27,87	0.38	0.23	0.045	0.080	0.070	0.345	0.0209
APR 29,87	APR 28,87	0.30	0.36	0.065	0.155	0.225	0.385	UG 0.0008
APR 30,87	APR 29,87	2.56	0.43	0.540	UG 0.250	0.220	1.850	UG 0.0001

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
MAY 11,87	MAY 10,87	800 800	530 800	1	3.4	1	45598	2	1	104	J
MAY 12,87	MAY 11,87	800 800	800 1400	1	6.2	1	45601	2	1	99	J
MAY 15,87	MAY 14,87	800 800	1900 2100	1	24.4	1	45604	2	1	101	
MAY 17,87	MAY 16,87	800 800	2000 2200	1	1.8	1	45609	2	1	96	J
MAY 18,87	MAY 17,87	800 800	900 1000	1	0.6	1	45612	2	1	31	NH
MAY 19,87	MAY 18,87	800 800	****	1	0.3	1	45615	2	1	5	E N
MAY 22,87	MAY 21,87	745 730	****	1	8.5	1	45618	2	1	108	
MAY 23,87	MAY 22,87	730 730	2330 30	1	0.9	1	45621	2	1	86	
MAY 24,87	MAY 23,87	730 800	1330 1530	1	2.6	1	45624	2	1	48	N
MAY 25,87	MAY 24,87	800 750	830 900	1	0.4	1	45627	2	1	35	NHCH
MAY 27,87	MAY 26,87	800 825	330 600	1	15.5	1	45630	2	1	104	
MAY 28,87	MAY 27,87	825 800	1030 1200	1	4.8	1	45635	2	1	90	
JUN 1,87	MAY 31,87	800 730	900 1230	1	4.3	1	45638	2	1	103	Q
JUN 2,87	JUN 1,87	730 745	1930 2030	1	0.9	1	45641	2	1	78	TM
JUN 3,87	JUN 2,87	745 800	500 700	1	1.2	1	45644	2	1	96	TCM
JUN 4,87	JUN 3,87	800 750	1045 1115	1	2.2	1	45647	2	1	107	TM
JUN 6,87	JUN 5,87	800 745	1415 1430	1	0.4	1	45650	2	1	132	NT
JUN 7,87	JUN 6,87	745 715	230 700	1	8.6	1	45653	2	1	104	HM
JUN 8,87	JUN 7,87	715 800	630 800	1	9.5	1	45656	2	1	104	H
JUN 9,87	JUN 8,87	800 530	800 805	1	0.2	1	45659	2	1	23	E N
JUN 10,87	JUN 9,87	530 630	900 1100	1	7.2	1	45662	2	1	91	HM
JUN 12,87	JUN 11,87	800 730	1645 2100	1	7.2	1	45665	2	1	102	TM
JUN 13,87	JUN 12,87	730 600	730 900	1	0.2	1	45668	2	1	46	E N
JUN 19,87	JUN 18,87	1045 730	530 600	1	1.5	1	45672	2	1	96	
JUN 23,87	JUN 22,87	800 645	****	1	0.1	1	45675	2	1	****	E N
JUN 26,87	JUN 25,87	800 745	600 145	1	4.4	1	45678	2	1	102	
JUN 27,87	JUN 26,87	745 800	1000 1015	1	0.4	1	45681	2	1	202	N
JUN 28,87	JUN 27,87	800 830	1430 1530	1	4.0	1	45684	2	1	99	
JUN 29,87	JUN 28,87	830 700	630 700	1	0.6	1	45687	2	1	96	
JUN 30,87	JUN 29,87	700 630	2115 2200	1	13.9	1	45690	2	1	100	
JUL 4,87	JUL 3,87	735 745	1600 1700	1	3.9	1	45695	2	1	109	C
JUL 14,87	JUL 13,87	1100 700	230 700	1	17.4	1	45699	2	1	100	
JUL 15,87	JUL 14,87	700 800	700 1100	1	7.4	1	45703	2	1	99	C
JUL 19,87	JUL 18,87	800 800	2000 2010	1	1.2	1	45705	2	1	94	
JUL 20,87	JUL 19,87	800 800	2290 2330	1	3.2	1	45707	2	1	98	
JUL 25,87	JUL 24,87	950 730	130 145	1	2.4	1	45710	2	1	94	
JUL 30,87	JUL 29,87	800 800	100 130	1	0.8	1	45712	2	1	81	
AUG 3,87	AUG 2,87	630 630	1100 1400	1	6.2	1	45714	2	1	103	
AUG 5,87	AUG 4,87	630 630	1020 1040	1	3.8	1	45716	2	1	107	
AUG 8,87	AUG 7,87	750 750	1130 1300	1	1.8	1	45718	2	1	95	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
MAY 11,87	MAY 10,87	228.0	34.5	4.26	4.77	*****	0.0574	5.55	1.01
MAY 12,87	MAY 11,87	395.0	42.5	4.09	4.59	*****	0.0768	6.10	0.98
MAY 15,87	MAY 14,87	1594.0	42.4	4.02	4.15	*****	0.0945	4.75	0.66
MAY 17,87	MAY 16,87	111.0	14.0	4.73	UG 6.09	*****	0.0156	2.10	0.44
MAY 18,87	MAY 17,87	12.0	25.6	*****	UG 6.37	*****	0.0392	4.30	0.85
MAY 19,87	MAY 18,87	1.0	!NR *****	*****	!NR *****	*****	!NR *****	!NR *****	!NR *****
MAY 22,87	MAY 21,87	592.0	73.0	*****	3.78	*****	0.1920	7.10	1.01
MAY 23,87	MAY 22,87	50.0	55.0	*****	4.12	*****	0.1080	6.70	1.50
MAY 24,87	MAY 23,87	80.0	12.0	*****	4.71	*****	0.0385	1.10	0.25
MAY 25,87	MAY 24,87	9.0	3.9	*****	UG 5.76	*****	0.0162	0.40	<W 0.01
MAY 27,87	MAY 26,87	1036.0	82.0	3.73	3.72	*****	0.2090	8.70	0.99
MAY 28,87	MAY 27,87	278.0	26.0	4.20	4.37	*****	0.0666	2.40	0.44
JUN 1,87	MAY 31,87	284.0	38.4	4.06	4.02	*****	0.1080	3.75	0.59
JUN 2,87	JUN 1,87	45.0	48.6	*****	3.85	*****	0.1380	2.85	1.04
JUN 3,87	JUN 2,87	74.0	100.0	*****	LQ 3.42	*****	UG 0.3320	10.30	2.05
JUN 4,87	JUN 3,87	152.0	49.1	3.95	3.87	*****	0.1320	5.15	0.77
JUN 6,87	JUN 5,87	34.0	34.2	*****	3.97	*****	0.1000	4.30	0.13
JUN 7,87	JUN 6,87	576.0	19.2	4.30	4.29	*****	0.0561	1.70	0.38
JUN 8,87	JUN 7,87	636.0	28.8	4.24	4.32	*****	0.0678	3.40	0.92
JUN 9,87	JUN 8,87	3.0	*****	*****	*****	*****	*****	*****	*****
JUN 10,87	JUN 9,87	423.0	10.7	4.57	4.52	*****	0.0367	1.00	<T 0.04
JUN 12,87	JUN 11,87	475.0	53.4	3.86	3.81	*****	0.1460	5.40	0.78
JUN 13,87	JUN 12,87	6.0	*****	*****	*****	*****	*****	*****	*****
JUN 19,87	JUN 18,87	93.0	82.8	*****	3.85	*****	0.1820	9.70	1.65
JUN 23,87	JUN 22,87	*****	*****	*****	*****	*****	*****	*****	*****
JUN 26,87	JUN 25,87	290.0	58.3	3.88	3.89	*****	0.1560	4.95	0.80
JUN 27,87	JUN 26,87	52.0	37.8	*****	4.15	*****	0.0982	4.85	0.35
JUN 28,87	JUN 27,87	254.0	10.2	4.63	4.91	*****	0.0305	1.00	0.20
JUN 29,87	JUN 28,87	37.0	24.5	*****	4.41	*****	0.0606	3.20	0.50
JUN 30,87	JUN 29,87	893.0	20.4	4.31	4.39	*****	0.0592	1.95	0.30
JUL 4,87	JUL 3,87	273.0	14.3	3.90	3.98	*****	0.1420	5.80	1.05
JUL 14,87	JUL 13,87	1126.0	6.7	4.75	5.17	*****	0.0250	0.50	0.10
JUL 15,87	JUL 14,87	471.0	5.6	4.98	5.32	*****	0.0218	<T 0.25	0.10
JUL 19,87	JUL 18,87	73.0	22.4	*****	4.53	*****	0.0552	2.85	0.45
JUL 20,87	JUL 19,87	202.0	25.2	4.19	4.34	*****	0.0702	2.40	0.55
JUL 25,87	JUL 24,87	146.0	21.8	4.28	4.40	*****	0.0616	2.05	0.50
JUL 30,87	JUL 29,87	42.0	32.3	*****	4.31	*****	0.0787	3.60	0.80
AUG 3,87	AUG 2,87	412.0	59.8	3.91	3.83	*****	0.1650	5.60	0.80
AUG 5,87	AUG 4,87	263.0	17.6	4.40	4.46	*****	0.0515	1.85	0.25
AUG 8,87	AUG 7,87	110.0	68.6	3.87	3.80	*****	0.1740	5.55	1.65

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
MAY 11,87	MAY 10,87	1.16	0.25	0.205	0.115	0.065	1.380	0.0170
MAY 12,87	MAY 11,87	1.14	0.24	0.175	0.075	0.065	1.250	0.0257
MAY 15,87	MAY 14,87	0.36	0.14	0.045	0.025	<T 0.010	0.800	0.0708
MAY 17,87	MAY 16,87	0.64	0.10	0.130	0.075	0.030	0.580	UG 0.0008
MAY 18,87	MAY 17,87	1.32	0.30	0.200	0.145	0.120	0.940	UG 0.0004
MAY 19,87	MAY 18,87	!NR *****	!NR *****	!NR *****	!NR *****	!NR *****	!NR *****	!NR *****
MAY 22,87	MAY 21,87	0.24	0.23	0.035	0.055	0.045	0.705	0.1660
MAY 23,87	MAY 22,87	0.68	0.31	0.140	0.130	0.125	1.850	0.0759
MAY 24,87	MAY 23,87	0.18	0.06	0.025	0.030	0.025	0.105	0.0195
MAY 25,87	MAY 24,87	<T 0.04	<T 0.02	<T 0.005	<T 0.020	<T 0.020	<W 0.005	UG 0.0017
MAY 27,87	MAY 26,87	0.22	0.19	0.030	0.040	<T 0.015	0.950	0.1905
MAY 28,87	MAY 27,87	<T 0.10	0.10	<T 0.010	<T 0.020	0.025	0.355	0.0427
JUN 1,87	MAY 31,87	0.20	0.23	0.030	0.110	0.100	0.495	0.0955
JUN 2,87	JUN 1,87	0.42	0.22	0.040	0.055	0.050	0.080	0.1413
JUN 3,87	JUN 2,87	0.56	0.45	0.085	0.095	0.105	0.460	LG 0.3802
JUN 4,87	JUN 3,87	0.22	0.15	<T 0.025	0.035	0.040	0.700	0.1349
JUN 6,87	JUN 5,87	0.28	0.09	0.055	0.220	0.040	!IS *****	0.1072
JUN 7,87	JUN 6,87	<T 0.08	0.15	<T 0.010	0.065	0.065	0.345	0.0513
JUN 8,87	JUN 7,87	0.66	0.21	0.115	0.070	D 0.040	0.950	0.0479
JUN 9,87	JUN 8,87	*****	*****	*****	*****	*****	*****	*****
JUN 10,87	JUN 9,87	<T 0.06	0.08	<T 0.010	0.025	0.035	LG 0.040	0.0302
JUN 12,87	JUN 11,87	0.38	0.20	0.065	0.065	0.035	0.410	0.1549
JUN 13,87	JUN 12,87	*****	*****	*****	*****	*****	*****	*****
JUN 19,87	JUN 18,87	1.86	0.40	0.390	0.080	0.075	1.050	0.1413
JUN 23,87	JUN 22,87	*****	*****	*****	*****	*****	*****	*****
JUN 26,87	JUN 25,87	0.30	0.30	0.035	D 0.090	0.090	0.230	0.1288
JUN 27,87	JUN 26,87	<T 0.10	0.15	<T 0.010	0.205	0.060	0.715	0.0708
JUN 28,87	JUN 27,87	0.14	0.10	<T 0.010	0.035	0.030	0.200	0.0123
JUN 29,87	JUN 28,87	0.52	0.15	0.110	0.070	0.060	0.405	0.0389
JUN 30,87	JUN 29,87	0.16	<T 0.05	<T 0.015	<T 0.010	<T 0.010	0.225	0.0407
JUL 4,87	JUL 3,87	0.44	0.10	0.060	<T 0.010	<W 0.005	1.000	0.1047
JUL 14,87	JUL 13,87	<W 0.02	0.25	<W 0.005	0.080	0.120	0.095	0.0068
JUL 15,87	JUL 14,87	<W 0.02	D 0.30	<W 0.005	0.100	D 0.260	<T 0.015	0.0048
JUL 19,87	JUL 18,87	0.52	0.10	0.105	0.055	0.035	0.410	0.0295
JUL 20,87	JUL 19,87	0.50	0.15	0.070	0.035	0.045	0.135	0.0457
JUL 25,87	JUL 24,87	0.36	0.10	0.070	0.040	0.120	0.250	0.0398
JUL 30,87	JUL 29,87	0.92	0.30	0.145	0.145	0.100	0.380	0.0490
AUG 3,87	AUG 2,87	0.18	0.20	0.025	0.055	0.045	0.425	0.1479
AUG 5,87	AUG 4,87	0.20	0.10	<T 0.020	0.045	0.035	0.205	0.0347
AUG 8,87	AUG 7,87	0.98	0.35	0.165	0.100	0.065	0.460	0.1585

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
AUG 10,87	AUG 9,87	800 800	1200 1400	1	2.7	1	45720	2	1	101	M
AUG 14,87	AUG 13,87	1130 730	515 630	1	1.9	1	45723	2	1	98	C
AUG 15,87	AUG 14,87	730 755	200 745	1	15.8	1	45725	2	1	104	
AUG 17,87	AUG 16,87	800 800	130 300	1	1.2	1	45729	2	1	89	
AUG 18,87	AUG 17,87	800 640	1700 1730	1	0.6	1	45731	2	1	46	N
AUG 19,87	AUG 18,87	640 740	200 300	1	1.5	1	45733	2	1	89	
AUG 20,87	AUG 19,87	740 730	2355 5	1	2.8	1	45735	2	1	96	
AUG 22,87	AUG 21,87	800 815	330 600	1	10.6	1	45737	2	1	106	
AUG 23,87	AUG 22,87	815 615	1200 1300	1	1.2	1	45739	2	1	83	
AUG 29,87	AUG 28,87	745 800	430 600	1	3.0	1	45742	2	1	100	
AUG 31,87	AUG 30,87	830 730	30 700	1	22.2	1	45744	2	1	104	
SEP 1,87	AUG 31,87	730 640	****	1	0.5	1	45746	2	1	49	NHM
SEP 2,87	SEP 1,87	640 700	2100 2330	1	2.0	1	45749	2	1	88	JH
SEP 3,87	SEP 2,87	700 800	****	1	0.4	1	45751	2	1	15	E N
SEP 8,87	SEP 7,87	820 640	1430 1500	1	0.7	1	45752	2	1	82	
SEP 9,87	SEP 8,87	640 800	1800 1930	1	2.1	1	45754	2	1	95	
SEP 12,87	SEP 11,87	800 800	2130 2230	1	2.6	1	45756	2	1	91	
SEP 14,87	SEP 13,87	800 800	1700 1800	1	20.0	1	45758	2	1	104	
SEP 20,87	SEP 19,87	745 800	930 1930	1	14.0	1	45765	2	1	101	
SEP 21,87	SEP 20,87	800 800	1400 100	1	3.8	1	45767	2	1	86	
SEP 22,87	SEP 21,87	800 730	1300 1330	1	0.4	1	45769	2	1	70	
SEP 24,87	SEP 23,87	815 815	****	1	7.3	1	45771	2	1	101	
SEP 28,87	SEP 27,87	815 815	1900 2030	1	4.4	1	45773	2	1	96	HM
SEP 29,87	SEP 28,87	815 630	****	1	0.3	1	45775	2	1	20	E N
SEP 30,87	SEP 29,87	630 630	1430 1930	1	10.2	1	45777	2	1	101	
OCT 1,87	SEP 30,87	830 630	1700 1930	1	1.2	1	45779	2	1	79	
OCT 2,87	OCT 1,87	630 815	2100 800	1	9.4	1	45781	2	1	100	H
OCT 3,87	OCT 2,87	815 845	1500 1700	1	1.9	1	45783	2	1	68	
OCT 6,87	OCT 5,87	815 815	430 700	1	1.8	1	45785	2	1	96	
OCT 7,87	OCT 6,87	815 815	1645 1730	1	9.3	1	45787	2	1	102	H
OCT 8,87	OCT 7,87	815 815	45 310	1	0.8	1	45789	2	1	52	
OCT 9,87	OCT 8,87	815 800	1230 1410	3	1.2	1	45791	2	1	85	
OCT 10,87	OCT 9,87	800 800	1930 2000	1	4.0	1	45793	2	1	100	H
OCT 12,87	OCT 11,87	815 800	630 800	1	1.0	1	45795	2	1	57	
OCT 13,87	OCT 12,87	800 800	930 1130	1	1.9	1	45797	2	1	87	
OCT 16,87	OCT 15,87	815 745	200 600	1	0.2	1	45799	2	1	46	E N
OCT 18,87	OCT 17,87	815 830	30 600	1	13.5	1	45801	2	1	89	
OCT 19,87	OCT 18,87	830 815	930 1100	1	0.8	1	45805	2	1	46	N
OCT 20,87	OCT 19,87	815 730	500 730	1	1.2	1	45807	2	1	65	JC
OCT 21,87	OCT 20,87	730 800	1310 1900	3	6.2	1	45809	2	1	85	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
AUG 10,87	AUG 9,87	175.0	10.3	4.48		*****	0.0398	0.75	0.10
AUG 14,87	AUG 13,87	120.0	> 100.0	LG 3.31	LG 3.29	*****	UG 0.6220	UG 17.50	UG 4.95
AUG 15,87	AUG 14,87	1060.0	68.0	3.74	3.78	*****	0.2100	6.20	1.05
AUG 17,87	AUG 16,87	69.0	86.0	*****	3.74	*****	0.2500	10.10	1.65
AUG 18,87	AUG 17,87	18.0	45.5	*****	4.03	*****	0.1370	5.40	0.81
AUG 19,87	AUG 18,87	86.0	11.0	*****	4.77	*****	0.0401	1.05	0.25
AUG 20,87	AUG 19,87	173.0	4.0	4.89	5.35	*****	0.0227	0.35	0.07
AUG 22,87	AUG 21,87	726.0	22.0	4.26	4.38	*****	0.0673	2.25	0.45
AUG 23,87	AUG 22,87	64.0	23.5	*****	4.33	*****	0.0780	2.90	0.20
AUG 29,87	AUG 28,87	194.0	40.5	4.06	4.03	*****	0.1340	4.70	0.20
AUG 31,87	AUG 30,87	1483.0	16.5	4.55	4.54	*****	0.0544	1.95	0.24
SEP 1,87	AUG 31,87	16.0	LG 2.5	*****	UG 5.62	*****	0.0175	LG 0.30	<T 0.03
SEP 2,87	SEP 1,87	114.0	8.0	4.83	5.48	*****	0.0225	0.90	0.12
SEP 3,87	SEP 2,87	4.0	*****	*****	*****	*****	*****	*****	*****
SEP 8,87	SEP 7,87	37.0	> 100.0	*****	LG 3.39	*****	UG 0.4720	UG 19.30	2.90
SEP 9,87	SEP 8,87	129.0	28.5	4.20	4.24	*****	0.0834	3.40	0.21
SEP 12,87	SEP 11,87	153.0	> 100.0	LG 3.52	3.59	*****	UG 0.3040	13.25	1.45
SEP 14,87	SEP 13,87	1338.0	43.5	4.03	4.11	*****	0.1000	4.80	0.40
SEP 20,87	SEP 19,87	912.0	16.3	4.41	4.44	*****	0.0575	1.15	0.19
SEP 21,87	SEP 20,87	210.0	44.0	4.00	4.03	*****	0.1210	3.60	0.57
SEP 22,87	SEP 21,87	18.0	8.4	*****	4.78	*****	0.0355	0.80	<T 0.04
SEP 24,87	SEP 23,87	477.0	16.3	*****	4.52	*****	0.0534	1.85	0.10
SEP 28,87	SEP 27,87	273.0	12.6	4.49	4.67	*****	0.0457	1.25	0.27
SEP 29,87	SEP 28,87	4.0	*****	*****	*****	*****	*****	*****	*****
SEP 30,87	SEP 29,87	663.0	36.9	4.08	4.12	*****	0.1020	3.85	0.38
OCT 1,87	SEP 30,87	61.0	19.2	*****	4.49	*****	!IR *****	2.35	0.11
OCT 2,87	OCT 1,87	607.0	17.6	4.85	5.09	*****	0.0311	2.60	0.62
OCT 3,87	OCT 2,87	84.0	8.8	*****	UG 6.18	*****	0.0207	1.85	0.25
OCT 6,87	OCT 5,87	111.0	48.0	3.97	4.06	*****	0.1180	3.85	1.26
OCT 7,87	OCT 6,87	614.0	31.8	5.10	5.53	*****	0.0309	6.55	1.19
OCT 8,87	OCT 7,87	27.0	6.9	*****	5.08	*****	0.0277	0.55	0.20
OCT 9,87	OCT 8,87	66.0	27.0	*****	4.31	*****	0.0799	1.25	0.94
OCT 10,87	OCT 9,87	258.0	31.0	4.56	4.73	*****	0.0485	3.75	1.20
OCT 12,87	OCT 11,87	37.0	37.0	*****	4.15	*****	0.0988	2.90	0.62
OCT 13,87	OCT 12,87	106.0	30.0	4.25	4.29	*****	0.0772	2.10	0.71
OCT 16,87	OCT 15,87	6.0	*****	*****	*****	*****	*****	*****	*****
OCT 18,87	OCT 17,87	775.0	27.0	4.27	4.27	*****	0.0711	2.30	0.45
OCT 19,87	OCT 18,87	24.0	9.0	*****	4.64	*****	0.0403	1.30	0.08
OCT 20,87	OCT 19,87	50.0	> 100.0	3.72	3.55	*****	UG 0.3150	15.60	3.15
OCT 21,87	OCT 20,87	338.0	95.0	*****	3.70	*****	0.2260	7.25	1.80



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 9

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
AUG 10,87	AUG 9,87	<T 0.04	<T 0.05	<T 0.005	0.025	<T 0.020	<W 0.005	0.0257
AUG 14,87	AUG 13,87	1.86	UG 1.54	0.320	0.070	0.070	0.555	LG 0.5129
AUG 15,87	AUG 14,87	0.34	0.25	0.060	0.025	0.040	0.155	0.1660
AUG 17,87	AUG 16,87	1.16	0.71	0.255	0.120	UG 0.390	0.760	0.1820
AUG 18,87	AUG 17,87	0.28	0.22	0.045	0.040	0.090	0.515	0.0933
AUG 19,87	AUG 18,87	0.12	0.41	<T 0.020	0.150	0.280	0.075	0.0170
AUG 20,87	AUG 19,87	<T 0.04	0.08	<T 0.005	0.045	0.035	0.050	0.0045
AUG 22,87	AUG 21,87	0.28	<W 0.01	0.040	0.025	0.030	0.335	0.0417
AUG 23,87	AUG 22,87	0.10	<W 0.01	<T 0.015	0.040	0.045	0.280	0.0468
AUG 29,87	AUG 28,87	0.26	<W 0.01	0.030	<T 0.025	0.030	LG 0.040	0.0933
AUG 31,87	AUG 30,87	<T 0.08	<T 0.03	<T 0.005	0.025	<W 0.005	0.340	0.0288
SEP 1,87	AUG 31,87	0.14	<W 0.01	<T 0.020	0.030	0.035	LG 0.035	UG 0.0024
SEP 2,87	SEP 1,87	0.20	0.55	0.050	0.255	UG 0.355	0.100	0.0033
SEP 3,87	SEP 2,87	*****	*****	*****	*****	*****	*****	*****
SEP 8,87	SEP 7,87	!IS *****	0.69	!IS *****	!IS *****	!IS *****	!IS *****	LG 0.4074
SEP 9,87	SEP 8,87	0.22	D 0.13	<T 0.020	0.065	0.085	0.225	0.0575
SEP 12,87	SEP 11,87	0.34	0.29	0.060	0.045	<T 0.020	1.100	0.2570
SEP 14,87	SEP 13,87	<T 0.08	0.09	<T 0.010	<T 0.010	<T 0.010	0.550	0.0776
SEP 20,87	SEP 19,87	<T 0.06	<T 0.02	<W 0.005	<T 0.005	<W 0.005	LG 0.035	0.0363
SEP 21,87	SEP 20,87	<T 0.10	<T 0.03	<T 0.010	<T 0.020	<T 0.015	0.255	0.0933
SEP 22,87	SEP 21,87	<T 0.08	<T 0.02	<T 0.005	<W 0.005	<T 0.020	<W 0.005	0.0166
SEP 24,87	SEP 23,87	0.16	<T 0.02	0.025	0.035	<T 0.015	0.125	0.0302
SEP 28,87	SEP 27,87	0.52	<T 0.02	0.045	0.030	<T 0.015	0.080	0.0214
SEP 29,87	SEP 28,87	*****	*****	*****	*****	*****	*****	*****
SEP 30,87	SEP 29,87	0.22	<T 0.05	<T 0.010	0.040	<T 0.010	0.455	0.0759
OCT 1,87	SEP 30,87	0.28	0.15	0.060	0.045	0.090	0.080	0.0324
OCT 2,87	OCT 1,87	0.82	<T 0.05	0.155	0.110	0.035	0.570	0.0081
OCT 3,87	OCT 2,87	0.50	<T 0.04	0.090	0.085	0.100	0.295	UG 0.0007
OCT 6,87	OCT 5,87	0.96	0.12	0.115	0.070	0.040	0.550	0.0871
OCT 7,87	OCT 6,87	1.74	0.20	0.255	0.110	UG 1.320	0.950	0.0030
OCT 8,87	OCT 7,87	!IS *****	0.06	!IS *****	!IS *****	!IS *****	0.065	0.0083
OCT 9,87	OCT 8,87	0.46	0.27	0.085	0.035	0.070	0.155	0.0490
OCT 10,87	OCT 9,87	1.48	0.29	0.205	0.130	0.065	0.900	0.0186
OCT 12,87	OCT 11,87	0.48	0.13	0.060	<T 0.020	0.055	0.150	0.0708
OCT 13,87	OCT 12,87	0.36	0.09	0.040	<T 0.015	0.025	0.255	0.0513
OCT 16,87	OCT 15,87	*****	*****	*****	*****	*****	*****	*****
OCT 18,87	OCT 17,87	0.14	0.08	<T 0.010	<T 0.015	<T 0.015	0.355	0.0537
OCT 19,87	OCT 18,87	0.12	0.05	<T 0.005	0.030	0.115	!IS *****	0.0229
OCT 20,87	OCT 19,87	0.72	0.50	0.080	0.140	0.110	2.700	0.2818
OCT 21,87	OCT 20,87	0.42	0.31	0.030	0.035	0.030	1.000	0.1995

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
OCT 22,87	OCT 21,87	800 800	100 115	2	0.2	2	45811	2	1	31	E N
OCT 23,87	OCT 22,87	800 745	2000 2400	3	10.4	2	45813	2	1	107	
OCT 24,87	OCT 23,87	745 815	****	1	****	1	45815	2	1	****	X
OCT 25,87	OCT 24,87	815 800	1300 600	3	22.0	2	45817	2	1	104	
OCT 27,87	OCT 26,87	730 800	500 800	1	5.0	1	45819	2	1	99	
OCT 28,87	OCT 27,87	800 800	800 1730	1	14.4	1	45821	2	1	93	
OCT 30,87	OCT 29,87	800 745	2000 2030	1	1.4	1	45823	2	1	82	
OCT 31,87	OCT 30,87	745 800	900 1210	1	2.0	1	45825	2	1	63	
NOV 3,87	NOV 2,87	800 800	200 800	1	4.2	1	45827	2	1	96	
NOV 4,87	NOV 3,87	800 810	800 1130	1	3.1	1	45829	2	1	66	J
NOV 5,87	NOV 4,87	810 730	1500 1715	1	4.1	1	45831	2	1	83	A
NOV 6,87	NOV 5,87	730 800	****	3	2.2	1	45833	2	1	90	M
NOV 7,87	NOV 6,87	800 800	800 900	2	1.7	2	45835	2	1	75	HM
NOV 9,87	NOV 8,87	730 800	1300 ****	1	6.0	2	45837	2	1	94	
NOV 12,87	NOV 11,87	735 815	330 430	2	0.2	2	45839	2	1	101	
NOV 18,87	NOV 17,87	805 740	1200 1900	1	8.4	1	45843	2	1	93	
NOV 19,87	NOV 18,87	740 800	930 1530	3	5.5	1	45845	2	1	89	
NOV 20,87	NOV 19,87	800 730	1500 2400	3	5.6	2	45847	2	1	95	
NOV 21,87	NOV 20,87	730 830	230 330	2	0.3	1	45849	2	1	10	N
NOV 22,87	NOV 21,87	830 830	****	2	****	1	45851	2	1	****	X
NOV 24,87	NOV 23,87	745 730	1115 2350	1	6.6	1	45853	2	1	114	
NOV 25,87	NOV 24,87	730 730	****	1	0.2	2	45855	2	1	U 31	G X
NOV 26,87	NOV 25,87	730 815	830 2000	2	19.6	2	45857	2	1	31	N
NOV 29,87	NOV 28,87	745 830	330 800	1	2.8	2	45859	2	1	121	N
NOV 30,87	NOV 29,87	830 805	845 1330	1	11.0	1	45861	2	1	78	
DEC 1,87	NOV 30,87	805 810	1400 1500	3	1.4	2	45863	2	1	86	
DEC 2,87	DEC 1,87	810 730	2230 415	2	0.4	2	45865	2	1	7	XN
DEC 3,87	DEC 2,87	730 830	1550 2030	2	1.4	2	45867	2	1	85	
DEC 8,87	DEC 7,87	800 730	****	1	****	2	45871	2	1	****	
DEC 9,87	DEC 8,87	730 810	730 1600	1	5.5	2	45873	2	1	105	
DEC 10,87	DEC 9,87	810 810	810 1330	1	13.9	1	45875	2	1	87	
DEC 11,87	DEC 10,87	810 730	800 1000	1	2.2	1	45877	2	1	65	M
DEC 12,87	DEC 11,87	730 1030	****	2	4.6	2	45879	2	1	92	
DEC 13,87	DEC 12,87	1030 810	1620 2130	2	1.9	2	45881	2	1	134	N
DEC 14,87	DEC 13,87	810 730	830 1200	3	4.5	2	45883	2	1	97	
DEC 15,87	DEC 14,87	730 730	800 1450	2	0.6	2	45885	2	1	72	
DEC 16,87	DEC 15,87	730 830	855 830	2	24.6	2	45887	2	1	38	N
DEC 17,87	DEC 16,87	830 815	815 1400	2	1.0	2	45889	2	1	3	XN
DEC 19,87	DEC 18,87	800 830	2200 130	2	2.7	2	45891	2	1	62	
DEC 20,87	DEC 19,87	830 745	830 1230	2	7.2	2	45893	2	1	58	



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEN

#08

PAGE : 11

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
OCT 22,87	OCT 21,87	4.0	*****	*****	*****	*****	*****	*****	*****
OCT 23,87	OCT 22,87	714.0	17.0	4.24	4.39	*****	0.0610	1.20	0.60
OCT 24,87	OCT 23,87	2.0	*****	*****	*****	*****	*****	*****	*****
OCT 25,87	OCT 24,87	1472.0	25.0	4.27	4.27	*****	0.0822	2.05	0.67
OCT 27,87	OCT 26,87	319.0	30.0	4.19	4.19	*****	0.0942	2.60	0.50
OCT 28,87	OCT 27,87	867.0	27.0	4.19	4.25	*****	0.0885	2.85	0.41
OCT 30,87	OCT 29,87	74.0	31.0	*****	4.27	*****	0.0858	1.60	1.26
OCT 31,87	OCT 30,87	82.0	68.0	*****	3.99	*****	0.1610	4.60	2.92
NOV 3,87	NOV 2,87	260.0	33.0	4.08	4.19	*****	0.1000	3.15	0.68
NOV 4,87	NOV 3,87	133.0	35.0	4.47	4.23	*****	0.0986	3.50	1.01
NOV 5,87	NOV 4,87	220.0	17.0	4.51	4.59	*****	0.0559	2.80	0.54
NOV 6,87	NOV 5,87	127.0	8.0	4.66	4.69	*****	0.0380	1.30	LG 0.07
NOV 7,87	NOV 6,87	82.0	4.5	*****	5.12	*****	0.0247	0.75	0.20
NOV 9,87	NOV 8,87	364.0	32.0	4.12	4.15	*****	0.0978	2.30	1.04
NOV 12,87	NOV 11,87	13.0	7.0	*****	5.15	*****	0.0288	1.15	0.41
NOV 18,87	NOV 17,87	502.0	28.0	4.19	4.29	*****	0.0797	2.70	0.45
NOV 19,87	NOV 18,87	314.0	8.0	4.75	4.70	*****	0.0325	0.90	0.11
NOV 20,87	NOV 19,87	344.0	13.0	4.78	4.78	*****	0.0410	0.95	0.50
NOV 21,87	NOV 20,87	2.0	!IS *****	*****	!IS *****	*****	!IS *****	!IS *****	!IS *****
NOV 22,87	NOV 21,87	2.0	*****	*****	*****	*****	*****	*****	*****
NOV 24,87	NOV 23,87	485.0	39.0	4.32	4.26	*****	0.0966	3.80	1.30
NOV 25,87	NOV 24,87	4.0	*****	*****	*****	*****	*****	*****	*****
NOV 26,87	NOV 25,87	394.0	5.0	UG 5.07	4.90	*****	0.0247	<T 0.20	0.14
NOV 29,87	NOV 28,87	218.0	8.0	4.88	4.80	*****	D 0.0306	0.70	0.16
NOV 30,87	NOV 29,87	552.0	13.0	4.50	4.45	*****	0.0473	0.85	0.27
DEC 1,87	NOV 30,87	78.0	20.0	*****	4.30	*****	0.0582	1.00	0.63
DEC 2,87	DEC 1,87	2.0	*****	*****	*****	*****	*****	*****	*****
DEC 3,87	DEC 2,87	77.0	9.0	*****	4.60	*****	0.0312	0.65	0.15
DEC 8,87	DEC 7,87	10.0	6.0	*****	5.48	*****	0.0214	0.75	0.12
DEC 9,87	DEC 8,87	373.0	46.0	3.96	4.05	*****	0.1300	3.20	0.70
DEC 10,87	DEC 9,87	780.0	25.0	4.26	4.36	*****	0.0756	2.00	0.46
DEC 11,87	DEC 10,87	93.0	10.0	*****	4.74	*****	0.0378	0.80	0.25
DEC 12,87	DEC 11,87	274.0	42.0	4.06	4.11	*****	0.1150	2.00	1.14
DEC 13,87	DEC 12,87	164.0	16.0	4.57	4.64	*****	0.0476	0.95	0.60
DEC 14,87	DEC 13,87	280.0	7.0	4.81	4.92	*****	0.0303	0.85	0.14
DEC 15,87	DEC 14,87	28.0	21.0	*****	4.65	*****	0.0439	0.30	0.19
DEC 16,87	DEC 15,87	604.0	18.0	4.41	4.49	*****	0.0559	0.65	0.51
DEC 17,87	DEC 16,87	2.0	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	109.0	40.0	4.12	4.17	*****	0.1050	1.90	1.20
DEC 20,87	DEC 19,87	269.0	10.5	4.60	4.56	*****	0.0402	0.45	0.35

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 12

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
OCT 22,87	OCT 21,87	*****	*****	*****	*****	*****	*****	*****
OCT 23,87	OCT 22,87	0.12	0.17	<T 0.005	<T 0.010	<T 0.010	0.155	0.0407
OCT 24,87	OCT 23,87	*****	*****	*****	*****	*****	*****	*****
OCT 25,87	OCT 24,87	<T 0.10	0.15	<T 0.010	<T 0.015	<T 0.010	0.285	0.0537
OCT 27,87	OCT 26,87	0.16	0.25	<T 0.010	0.035	0.040	0.045	0.0646
OCT 28,87	OCT 27,87	<T 0.04	0.17	<T 0.005	<T 0.020	<T 0.015	0.215	0.0562
OCT 30,87	OCT 29,87	0.46	0.32	0.070	0.070	0.060	0.285	0.0537
OCT 31,87	OCT 30,87	1.72	0.59	0.235	0.110	0.070	1.150	0.1023
NOV 3,87	NOV 2,87	0.16	0.06	<T 0.025	0.025	0.045	0.270	0.0646
NOV 4,87	NOV 3,87	0.28	0.25	0.035	0.060	0.080	0.710	0.0589
NOV 5,87	NOV 4,87	D 0.26	0.28	<T 0.015	0.050	0.035	0.635	0.0257
NOV 6,87	NOV 5,87	<W 0.02	<T 0.01	<T 0.005	<T 0.005	<T 0.005	<T 0.010	0.0204
NOV 7,87	NOV 6,87	<T 0.10	0.14	<T 0.020	0.030	0.050	<T 0.025	0.0076
NOV 9,87	NOV 8,87	0.26	0.16	D 0.030	0.045	0.025	0.445	0.0708
NOV 12,87	NOV 11,87	!IS *****	0.11	!IS *****	!IS *****	!IS *****	0.310	0.0071
NOV 18,87	NOV 17,87	0.18	0.46	0.045	<T 0.015	0.250	0.205	0.0513
NOV 19,87	NOV 18,87	<T 0.02	<T 0.04	<T 0.005	<W 0.005	<T 0.010	0.110	0.0200
NOV 20,87	NOV 19,87	0.26	0.08	0.030	<T 0.010	0.025	0.260	0.0166
NOV 21,87	NOV 20,87	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****
NOV 22,87	NOV 21,87	*****	*****	*****	*****	*****	*****	*****
NOV 24,87	NOV 23,87	0.72	0.38	0.075	0.050	0.205	1.000	0.0550
NOV 25,87	NOV 24,87	*****	*****	*****	*****	*****	*****	*****
NOV 26,87	NOV 25,87	<W 0.02	<T 0.01	<W 0.005	<W 0.005	<T 0.005	<T 0.005	0.0126
NOV 29,87	NOV 28,87	0.14	0.14	<T 0.010	<T 0.020	0.065	<T 0.025	0.0158
NOV 30,87	NOV 29,87	<T 0.04	<T 0.03	<W 0.005	<W 0.005	<T 0.010	<T 0.020	0.0355
DEC 1,87	NOV 30,87	0.32	0.13	<T 0.015	<T 0.015	0.040	0.085	0.0501
DEC 2,87	DEC 1,87	*****	*****	*****	*****	*****	*****	*****
DEC 3,87	DEC 2,87	<T 0.06	<T 0.03	<T 0.005	<W 0.005	<T 0.015	<T 0.005	0.0251
DEC 8,87	DEC 7,87	!IS *****	<T 0.01	!IS *****	!IS *****	!IS *****	<T 0.020	0.0033
DEC 9,87	DEC 8,87	0.14	0.48	0.025	<T 0.010	0.110	0.130	0.0891
DEC 10,87	DEC 9,87	0.10	0.10	<T 0.010	<T 0.010	0.045	0.275	0.0437
DEC 11,87	DEC 10,87	<T 0.06	<T 0.01	<W 0.005	<T 0.010	0.050	0.045	0.0182
DEC 12,87	DEC 11,87	0.18	0.20	<T 0.010	<T 0.015	0.070	0.255	0.0776
DEC 13,87	DEC 12,87	0.16	<T 0.01	<T 0.015	<T 0.010	0.035	0.290	0.0229
DEC 14,87	DEC 13,87	<T 0.10	<T 0.01	<W 0.005	<W 0.005	0.040	0.115	0.0120
DEC 15,87	DEC 14,87	!IS *****	UG 2.50	!IS *****	!IS *****	!IS *****	<T 0.025	0.0224
DEC 16,87	DEC 15,87	<T 0.08	0.36	<W 0.005	<W 0.005	0.215	0.050	0.0324
DEC 17,87	DEC 16,87	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	0.42	0.60	0.060	<T 0.010	0.215	0.275	0.0676
DEC 20,87	DEC 19,87	<W 0.02	<T 0.01	<W 0.005	<W 0.005	<T 0.020	0.030	0.0275

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 13

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
DEC 21,87	DEC 20,87	745 730	800 2230	3	7.6	2	45895	2	1	80	M
DEC 22,87	DEC 21,87	730 830	1500 1900	2	11.3	2	45897	2	1	78	
DEC 23,87	DEC 22,87	830 730	1800 600	2	3.5	2	45899	2	1	44	N
DEC 24,87	DEC 23,87	730 730	900 1330	2	0.9	2	45901	2	1	86	
DEC 25,87	DEC 24,87	730 730	1200 1800	1	4.7	2	45903	2	1	81	
DEC 28,87	DEC 27,87	800 830	100 200	2	0.4	2	45905	2	1	113	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 14

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
DEC 21,87	DEC 20,87	390.0	20.0	4.35	4.43	*****	0.0646	1.75	0.39
DEC 22,87	DEC 21,87	569.0	9.0	4.81	4.88	*****	0.0338	0.70	0.44
DEC 23,87	DEC 22,87	100.0	31.0	4.22	4.24	*****	0.0849	1.00	1.07
DEC 24,87	DEC 23,87	50.0	30.0	*****	4.31	*****	0.0730	1.00	0.89
DEC 25,87	DEC 24,87	247.0	42.0	4.15	4.19	*****	0.0913	2.55	0.62
DEC 28,87	DEC 27,87	29.0	16.0	*****	4.52	*****	0.0526	1.40	0.40

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : DORSET/DAILY/AEROCHEM

#08

PAGE : 15

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
DEC 21,87	DEC 20,87	<T 0.06	0.10	<T 0.005	<T 0.020	0.040	0.120	0.0372
DEC 22,87	DEC 21,87	0.16	0.17	<T 0.020	<T 0.010	0.035	0.245	0.0132
DEC 23,87	DEC 22,87	0.26	0.21	0.030	<T 0.010	0.060	0.255	0.0575
DEC 24,87	DEC 23,87	!IS *****	1.08	!IS *****	!IS *****	!IS *****	0.215	0.0490
DEC 25,87	DEC 24,87	0.20	B 2.70	<T 0.010	D 0.075	B 1.750	0.240	0.0646
DEC 28,87	DEC 27,87	!IS *****	0.12	!IS *****	!IS *****	!IS *****	0.165	0.0302

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 7,87	JAN 6,87	830 830	500 630	3	0.8	1	41932	2	1	50	
JAN 9,87	JAN 8,87	830 830	500 830	2	1.2	2	41933	2	1	124	N
JAN 10,87	JAN 9,87	830 830	830 1030	3	3.0	2	41934	2	1	82	
JAN 11,87	JAN 10,87	830 800	830 930	2	****	2	41935	2	1	****	HCM
JAN 16,87	JAN 15,87	800 900	****	3	0.2	2	41936	2	1	124	N
JAN 18,87	JAN 17,87	845 900	600 900	2	5.4	2	41937	2	1	95	
JAN 19,87	JAN 18,87	900 900	900 1100	2	0.8	2	41938	2	1	142	N
JAN 21,87	JAN 20,87	900 815	400 815	2	2.4	2	41939	2	1	79	
JAN 22,87	JAN 21,87	815 830	815 1100	2	1.2	2	41940	2	1	67	
JAN 23,87	JAN 22,87	830 900	300 430	2	4.2	2	41941	2	1	64	
JAN 29,87	JAN 28,87	815 900	1600 1700	2	0.4	2	41944	2	1	50	
JAN 31,87	JAN 30,87	800 900	830 1030	2	8.6	2	41945	2	1	U 28	G
FEB 2,87	FEB 1,87	900 900	400 500	2	3.2	2	41946	2	1	74	
FEB 3,87	FEB 2,87	900 900	500 600	3	1.6	2	41947	2	1	67	HM
FEB 4,87	FEB 3,87	900 815	400 500	2	****	2	41948	2	1	****	E
FEB 6,87	FEB 5,87	815 830	****	2	4.0	2	41949	2	1	89	N
FEB 7,87	FEB 6,87	830 830	****	3	1.4	2	41950	2	1	55	HCM
FEB 9,87	FEB 7,87	900 900	900 1300	2	19.0	2	41951	2	1	61	Y2
FEB 10,87	FEB 9,87	900 830	400 500	2	****	2	41952	2	1	****	E
FEB 13,87	FEB 12,87	815 900	500 600	2	0.6	2	41953	2	1	148	NHCM
MAR 2,87	FEB 28,87	800 900	300 800	3	26.8	2	41957	2	1	66	Y2
MAR 26,87	MAR 25,87	800 830	1300 1500	1	5.6	2	41962	2	1	120	N
MAR 27,87	MAR 26,87	830 730	830 930	1	0.6	2	41963	2	1	122	N
MAR 30,87	MAR 29,87	845 745	530 745	1	12.2	2	41964	2	1	96	
MAR 31,87	MAR 30,87	745 800	500 800	3	20.4	2	41965	2	1	66	
APR 1,87	MAR 31,87	800 745	800 1200	2	8.8	2	41966	2	1	53	CZ
APR 2,87	APR 1,87	745 730	400 600	2	6.6	2	41967	2	1	43	N
APR 3,87	APR 2,87	730 800	300 430	2	2.2	2	41968	2	1	39	N
APR 5,87	APR 4,87	745 800	500 800	1	3.6	2	41969	2	1	129	N
APR 6,87	APR 5,87	800 830	800 900	1	****	2	41970	2	1	****	HCM
APR 13,87	APR 12,87	800 1000	1800 2000	1	4.2	2	41971	2	1	116	
APR 22,87	APR 21,87	800 900	1500 1800	1	1.2	1	41972	2	1	96	A
APR 24,87	APR 23,87	730 730	400 600	1	1.4	1	41973	2	1	65	H
APR 28,87	APR 27,87	800 720	1500 1800	1	11.0	1	41974	2	1	99	C
APR 29,87	APR 28,87	720 730	1100 1300	3	2.2	1	41975	2	1	71	HM
APR 30,87	APR 29,87	730 745	1800 1900	1	3.4	1	41976	2	1	86	J
MAY 11,87	MAY 10,87	800 730	500 700	1	2.6	1	41978	2	1	87	JH
MAY 12,87	MAY 11,87	730 730	2200 2300	1	6.4	1	41979	2	1	95	
MAY 15,87	MAY 14,87	730 725	1500 1630	1	18.2	1	41982	2	1	103	
MAY 17,87	MAY 16,87	730 830	1830 2000	1	3.0	1	41983	2	1	92	JHC

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 7,87	JAN 6,87	26.0	74.0	*****	3.90	*****	0.1490	5.95	1.96
JAN 9,87	JAN 8,87	96.0	25.6	4.46	4.46	*****	0.0573	3.40	0.38
JAN 10,87	JAN 9,87	158.0	17.8	4.51	4.54	*****	0.0484	0.50	0.60
JAN 11,87	JAN 10,87	8.0	3.9	*****	5.88	*****	0.0189	0.15	0.09
JAN 16,87	JAN 15,87	16.0	50.1	*****	4.11	*****	0.1070	3.05	1.40
JAN 18,87	JAN 17,87	330.0	12.2	4.71	4.77	*****	0.0376	0.25	0.49
JAN 19,87	JAN 18,87	73.0	7.3	*****	6.72	*****	0.0167	0.25	0.24
JAN 21,87	JAN 20,87	122.0	12.8	6.10	6.55	*****	0.0194	0.80	0.63
JAN 22,87	JAN 21,87	52.0	7.7	*****	5.97	*****	0.0187	0.70	0.30
JAN 23,87	JAN 22,87	173.0	38.0	4.09	4.14	*****	0.0936	0.30	1.20
JAN 29,87	JAN 28,87	13.0	21.6	*****	4.41	*****	0.0579	0.90	0.55
JAN 31,87	JAN 30,87	158.0	20.7	4.39	4.42	*****	0.0603	0.80	0.56
FEB 2,87	FEB 1,87	152.0	41.3	4.25	4.32	*****	0.0784	2.75	1.49
FEB 3,87	FEB 2,87	69.0	18.3	*****	4.52	*****	0.0480	1.20	0.53
FEB 4,87	FEB 3,87	2.0	*****	*****	*****	*****	*****	*****	*****
FEB 6,87	FEB 5,87	230.0	10.3	4.77	4.81	*****	0.0307	0.45	0.37
FEB 7,87	FEB 6,87	50.0	17.7	*****	6.29	*****	0.0244	2.50	0.85
FEB 9,87	FEB 7,87	750.0	18.6	4.41	4.39	*****	0.0583	0.75	0.76
FEB 10,87	FEB 9,87	2.0	*****	*****	*****	*****	*****	*****	*****
FEB 13,87	FEB 12,87	57.0	5.0	*****	4.05	*****	0.1070	0.95	1.48
MAR 2,87	FEB 28,87	1147.0	12.1	4.57	4.64	*****	0.0433	0.85	0.22
MAR 26,87	MAR 25,87	433.0	33.0	4.10	4.27	*****	0.0901	2.40	0.64
MAR 27,87	MAR 26,87	47.0	36.0	*****	4.27	*****	0.0912	2.70	0.65
MAR 30,87	MAR 29,87	754.0	39.0	4.05	4.19	*****	0.1040	3.40	0.61
MAR 31,87	MAR 30,87	867.0	11.0	4.58	4.61	*****	0.0358	0.95	0.12
APR 1,87	MAR 31,87	301.0	12.0	4.83	4.88	*****	0.0257	0.40	0.14
APR 2,87	APR 1,87	182.0	23.0	4.28	4.41	*****	0.0658	0.45	0.65
APR 3,87	APR 2,87	56.0	40.5	*****	4.24	*****	0.0980	3.20	0.89
APR 5,87	APR 4,87	298.0	7.2	4.72	4.88	*****	0.0265	0.60	0.08
APR 6,87	APR 5,87	7.0	3.5	*****	5.36	*****	0.0213	0.25	<W
APR 13,87	APR 12,87	314.0	49.0	3.86	3.98	*****	0.1500	5.55	1.11
APR 22,87	APR 21,87	74.0	33.0	*****	6.73	*****	0.0233	8.15	1.19
APR 24,87	APR 23,87	59.0	100.0	*****	3.43	*****	0.4560	18.00	3.15
APR 28,87	APR 27,87	705.0	12.0	4.56	4.82	*****	0.0392	1.20	0.33
APR 29,87	APR 28,87	101.0	5.0	4.78	5.12	*****	0.0252	0.50	0.07
APR 30,87	APR 29,87	189.0	46.0	6.68	7.41	*****	0.0178	7.05	1.47
MAY 11,87	MAY 10,87	146.0	36.5	4.30	7.03	*****	0.0360	6.65	1.23
MAY 12,87	MAY 11,87	390.0	36.0	4.14	4.51	*****	0.0548	5.30	0.88
MAY 15,87	MAY 14,87	1208.0	39.1	4.07	4.20	*****	0.0826	4.65	0.66
MAY 17,87	MAY 16,87	178.0	10.2	4.67	5.50	*****	0.0184	1.30	0.23

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 7,87	JAN 6,87	!IS *****	0.61	!IS *****	!IS *****	!IS *****	!IS *****	0.1259
JAN 9,87	JAN 8,87	0.18	0.16	<T 0.020	0.045	0.090	0.765	0.0347
JAN 10,87	JAN 9,87	<T 0.04	0.11	<T 0.005	<T 0.020	0.030	0.300	0.0288
JAN 11,87	JAN 10,87	<T 0.04	0.06	<W 0.005	0.025	0.040	0.180	UG 0.0013
JAN 16,87	JAN 15,87	0.14	0.29	<T 0.015	D 0.135	0.080	1.150	0.0776
JAN 18,87	JAN 17,87	<T 0.08	0.12	<T 0.005	<T 0.020	0.025	0.260	0.0170
JAN 19,87	JAN 18,87	<T 0.06	0.14	<T 0.010	0.035	0.045	0.630	UG 0.0002
JAN 21,87	JAN 20,87	<T 0.10	0.16	<T 0.020	D 0.040	0.060	D 1.100	B 0.0003
JAN 22,87	JAN 21,87	0.14	0.17	D 0.025	D 0.050	0.095	D 0.420	B 0.0011
JAN 23,87	JAN 22,87	<T 0.06	0.22	<T 0.005	<T 0.020	0.025	0.195	0.0724
JAN 29,87	JAN 28,87	<T 0.08	0.21	<T 0.005	0.045	0.095	0.180	0.0389
JAN 31,87	JAN 30,87	<T 0.06	0.11	<T 0.005	<T 0.010	0.025	0.230	0.0380
FEB 2,87	FEB 1,87	0.46	0.34	0.055	0.045	0.150	1.300	0.0479
FEB 3,87	FEB 2,87	<T 0.08	0.11	<T 0.010	<T 0.010	0.040	0.105	0.0302
FEB 4,87	FEB 3,87	*****	*****	*****	*****	*****	*****	*****
FEB 6,87	FEB 5,87	<T 0.08	0.16	<T 0.015	<T 0.010	<T 0.020	0.120	D 0.0155
FEB 7,87	FEB 6,87	0.20	0.21	0.025	0.050	0.120	0.395	B 0.0005
FEB 9,87	FEB 7,87	0.16	0.17	<T 0.020	<T 0.010	<T 0.020	0.385	0.0407
FEB 10,87	FEB 9,87	*****	*****	*****	*****	*****	*****	*****
FEB 13,87	FEB 12,87	0.22	0.51	0.025	<T 0.020	0.180	D 1.600	0.0891
MAR 2,87	FEB 28,87	<T 0.02	<T 0.04	<T 0.005	0.030	<T 0.015	0.055	0.0229
MAR 26,87	MAR 25,87	0.14	<W 0.01	<T 0.020	D 0.080	0.045	0.260	0.0537
MAR 27,87	MAR 26,87	0.10	<W 0.01	<T 0.010	0.075	0.085	0.450	D 0.0537
MAR 30,87	MAR 29,87	0.18	<W 0.01	<T 0.025	0.050	0.040	0.350	0.0646
MAR 31,87	MAR 30,87	<T 0.02	<W 0.01	<W 0.005	<T 0.010	<T 0.015	0.050	0.0245
APR 1,87	MAR 31,87	<W 0.02	<T 0.02	<T 0.005	<T 0.015	0.025	0.035	0.0132
APR 2,87	APR 1,87	<T 0.04	!IR *****	<W 0.005	<T 0.020	<T 0.020	0.120	0.0389
APR 3,87	APR 2,87	0.12	!IR *****	<T 0.010	0.025	0.060	0.740	0.0575
APR 5,87	APR 4,87	<T 0.02	<T 0.04	<T 0.005	<T 0.015	0.050	<T 0.025	0.0132
APR 6,87	APR 5,87	<T 0.02	<W 0.01	<W 0.005	0.045	0.070	<W 0.005	0.0044
APR 13,87	APR 12,87	0.44	0.23	0.065	0.050	0.035	0.780	0.1047
APR 22,87	APR 21,87	1.92	0.34	0.285	UG 0.320	0.175	2.550	UG 0.0002
APR 24,87	APR 23,87	1.06	0.74	0.140	0.170	0.140	1.650	LG 0.3715
APR 28,87	APR 27,87	0.26	0.26	0.030	D 0.040	0.030	0.200	0.0151
APR 29,87	APR 28,87	<T 0.08	0.28	<T 0.010	0.050	0.050	<T 0.020	0.0076
APR 30,87	APR 29,87	UG 3.60	0.46	0.725	UG 0.260	0.275	2.500	UG 0.0000
MAY 11,87	MAY 10,87	1.54	0.39	0.260	D 0.220	B 0.440	1.730	UG 0.0001
MAY 12,87	MAY 11,87	1.08	0.23	0.175	0.085	0.090	1.120	0.0309
MAY 15,87	MAY 14,87	0.52	0.14	0.075	0.030	<T 0.010	0.705	0.0631
MAY 17,87	MAY 16,87	0.26	0.06	D 0.050	0.155	0.040	D 0.350	0.0032



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
MAY 19,87	MAY 17,87	830 830	1000 1100	1	0.6	1	41984	2	1	46	NZ
MAY 20,87	MAY 19,87	830 730	1900 2000	1	****	1	41985	2	1	****	E
MAY 22,87	MAY 21,87	700 730	1400 1600	1	17.2	1	41986	2	1	98	
MAY 23,87	MAY 22,87	730 830	700 830	1	0.8	1	41988	2	1	****	E N
MAY 24,87	MAY 23,87	830 900	830 1000	1	2.6	1	41987	2	1	55	
MAY 27,87	MAY 26,87	700 715	1600 1900	1	11.2	1	41989	2	1	94	T
JUN 1,87	MAY 31,87	815 830	930 1300	1	10.2	1	41990	2	1	96	
JUN 2,87	JUN 1,87	830 730	2100 2200	1	0.8	1	41991	2	1	35	NM
JUN 3,87	JUN 2,87	730 730	2200 2300	1	1.6	1	41992	2	1	81	TM
JUN 4,87	JUN 3,87	730 900	**** ****	1	2.4	1	41993	2	1	U 16	G
JUN 8,87	JUN 7,87	800 745	900 1000	1	16.2	1	41994	2	1	95	
JUN 9,87	JUN 8,87	745 730	745 830	1	16.2	1	41997	2	1	3	NC
JUN 10,87	JUN 9,87	730 715	1000 1130	1	8.8	1	41998	2	1	92	C
JUN 12,87	JUN 11,87	730 745	1600 1900	1	7.4	1	41999	2	1	94	
JUN 19,87	JUN 18,87	730 745	400 500	1	2.6	1	49500	2	1	84	
JUN 23,87	JUN 22,87	730 730	1600 1630	1	0.1	1	49501	2	1	62	E
JUN 26,87	JUN 25,87	730 730	500 730	1	3.8	1	49502	2	1	96	
JUN 27,87	JUN 26,87	730 800	730 930	1	1.0	1	49503	2	1	60	
JUN 28,87	JUN 27,87	800 800	400 500	1	14.4	1	49504	2	1	104	C
JUN 29,87	JUN 28,87	800 800	500 500	1	4.0	1	49507	2	1	99	
JUN 30,87	JUN 29,87	800 745	800 1000	1	9.8	1	49508	2	1	95	
JUL 4,87	JUL 3,87	745 900	1500 1600	1	6.2	1	49509	2	1	97	
JUL 10,87	JUL 9,87	740 730	1600 1610	1	0.4	1	49510	2	1	****	E N
JUL 13,87	JUL 12,87	900 720	400 500	1	2.6	1	49511	2	1	79	
JUL 14,87	JUL 13,87	720 740	500 740	1	21.8	1	49512	2	1	100	J
JUL 15,87	JUL 14,87	740 740	740 900	1	4.4	1	49515	2	1	83	JHCM
JUL 20,87	JUL 18,87	745 745	400 600	1	6.4	1	49516	2	1	101	Y2
JUL 27,87	JUL 26,87	900 730	400 500	1	2.8	1	49517	2	1	114	
AUG 3,87	AUG 2,87	800 800	900 1200	1	5.4	1	49519	2	1	100	
AUG 5,87	AUG 4,87	730 730	1000 1100	1	7.6	1	49520	2	1	94	
AUG 8,87	AUG 7,87	730 900	1100 1200	1	2.4	1	49521	2	1	94	
AUG 10,87	AUG 9,87	900 900	1100 1400	1	4.2	1	49522	2	1	88	
AUG 14,87	AUG 13,87	730 745	430 530	1	5.0	1	49524	2	1	102	C
AUG 15,87	AUG 14,87	745 800	400 600	1	24.6	1	49525	2	1	96	
AUG 17,87	AUG 16,87	800 700	400 500	1	1.6	1	49528	2	1	84	
AUG 18,87	AUG 17,87	730 740	1400 1500	1	0.6	1	49529	2	1	41	N
AUG 19,87	AUG 18,87	740 730	400 500	1	2.0	1	49530	2	1	85	
AUG 20,87	AUG 19,87	730 725	400 500	1	1.0	1	49531	2	1	****	GE
AUG 22,87	AUG 21,87	730 800	600 700	1	14.8	1	49532	2	1	98	
AUG 24,87	AUG 23,87	800 730	1000 1100	1	1.0	1	49533	2	1	63	HCM

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
MAY 19,87	MAY 17,87	18.0	23.7	*****	ICR *****	*****	ICR *****	3.95	0.75
MAY 20,87	MAY 19,87	1.0	*****	*****	*****	*****	*****	*****	*****
MAY 22,87	MAY 21,87	1086.0	91.0	3.82	3.72	*****	0.2250	8.80	1.20
MAY 23,87	MAY 22,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 24,87	MAY 23,87	92.0	15.0	*****	4.60	*****	0.0464	1.20	0.25
MAY 27,87	MAY 26,87	680.0	87.6	3.67	3.61	*****	0.2380	9.35	1.03
JUN 1,87	MAY 31,87	632.0	26.7	D 4.23	4.19	*****	0.0765	2.55	0.43
JUN 2,87	JUN 1,87	18.0	19.8	*****	4.26	*****	0.0586	D 1.00	0.48
JUN 3,87	JUN 2,87	84.0	D 70.0	*****	D 3.72	*****	D 0.1820	D 7.15	1.16
JUN 4,87	JUN 3,87	25.0	28.3	*****	4.17	*****	0.0775	2.95	0.45
JUN 8,87	JUN 7,87	993.0	27.2	4.20	4.27	*****	0.0633	2.85	0.70
JUN 9,87	JUN 8,87	39.0	9.1	*****	5.43	*****	0.0257	0.90	0.25
JUN 10,87	JUN 9,87	520.0	8.0	D 4.68	4.97	*****	0.0288	0.80	<T 0.03
JUN 12,87	JUN 11,87	449.0	D 63.0	D 3.80	3.82	*****	0.1660	6.50	0.93
JUN 19,87	JUN 18,87	141.0	90.9	3.71	3.75	*****	0.2210	10.00	1.35
JUN 23,87	JUN 22,87	4.0	*****	*****	*****	*****	*****	*****	*****
JUN 26,87	JUN 25,87	235.0	63.9	3.83	3.85	*****	D 0.1730	5.60	1.00
JUN 27,87	JUN 26,87	39.0	36.3	*****	4.19	*****	0.0927	4.50	0.40
JUN 28,87	JUN 27,87	966.0	9.2	4.88	5.10	*****	0.0277	0.85	0.15
JUN 29,87	JUN 28,87	256.0	12.8	4.60	D 4.71	*****	D 0.0406	1.10	0.15
JUN 30,87	JUN 29,87	598.0	28.6	4.17	4.27	*****	0.0773	2.65	0.40
JUL 4,87	JUL 3,87	388.0	53.1	3.93	4.01	*****	0.1330	5.80	0.95
JUL 10,87	JUL 9,87	*****	*****	*****	*****	*****	*****	*****	*****
JUL 13,87	JUL 12,87	132.0	30.8	4.10	4.39	*****	0.0711	3.70	0.75
JUL 14,87	JUL 13,87	1405.0	5.6	4.73	5.22	*****	0.0227	0.55	0.10
JUL 15,87	JUL 14,87	235.0	4.5	4.86	5.49	*****	0.0211	LG 0.30	0.10
JUL 20,87	JUL 18,87	416.0	21.8	4.26	4.46	*****	0.0620	2.35	0.40
JUL 27,87	JUL 26,87	206.0	21.2	4.37	4.36	*****	0.0600	2.30	0.35
AUG 3,87	AUG 2,87	347.0	49.8	*****	3.90	*****	0.1370	4.60	0.70
AUG 5,87	AUG 4,87	460.0	15.0	4.50	4.48	*****	0.0494	1.50	0.15
AUG 8,87	AUG 7,87	145.0	57.3	3.92	3.90	*****	0.1430	5.10	1.35
AUG 10,87	AUG 9,87	239.0	10.3	4.45	4.62	*****	0.0382	0.75	0.10
AUG 14,87	AUG 13,87	327.0	> 100.0	LG 3.46	D 3.51	*****	UG 0.3960	D 10.40	2.35
AUG 15,87	AUG 14,87	1522.0	58.5	3.78	3.86	*****	0.1820	5.45	0.86
AUG 17,87	AUG 16,87	87.0	42.0	*****	4.12	*****	0.1210	5.80	0.70
AUG 18,87	AUG 17,87	16.0	37.5	*****	4.11	*****	0.1170	4.05	0.63
AUG 19,87	AUG 18,87	109.0	11.0	4.50	4.70	*****	0.0424	0.95	0.23
AUG 20,87	AUG 19,87	*****	*****	*****	*****	*****	*****	*****	*****
AUG 22,87	AUG 21,87	936.0	17.0	4.33	4.51	*****	0.0555	1.80	0.32
AUG 24,87	AUG 23,87	41.0	4.0	*****	UG 5.69	*****	0.0184	0.45	0.08

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
MAY 19,87	MAY 17,87	1.10	0.20	0.180	0.075	0.305	0.825	ICR *****
MAY 20,87	MAY 19,87	*****	*****	*****	*****	*****	*****	*****
MAY 22,87	MAY 21,87	0.24	0.25	0.035	0.050	0.030	0.940	0.1905
MAY 23,87	MAY 22,87	*****	*****	*****	*****	*****	*****	*****
MAY 24,87	MAY 23,87	<T 0.10	<T 0.05	<T 0.010	0.035	<T 0.015	0.140	0.0251
MAY 27,87	MAY 26,87	0.16	0.22	<T 0.025	0.035	0.030	0.900	0.2455
JUN 1,87	MAY 31,87	0.10	0.15	<T 0.015	0.055	0.045	0.375	0.0646
JUN 2,87	JUN 1,87	0.14	0.14	<T 0.015	0.055	0.060	0.060	0.0550
JUN 3,87	JUN 2,87	0.40	D 0.31	0.070	B 0.285	0.090	0.900	D 0.1905
JUN 4,87	JUN 3,87	0.16	0.11	<T 0.015	0.040	0.045	0.470	0.0676
JUN 8,87	JUN 7,87	0.38	0.14	0.065	0.060	<T 0.020	0.685	0.0537
JUN 9,87	JUN 8,87	0.20	0.16	0.030	0.140	0.080	0.240	0.0037
JUN 10,87	JUN 9,87	<T 0.08	0.06	<T 0.005	<T 0.015	<T 0.020	<T 0.010	0.0107
JUN 12,87	JUN 11,87	0.42	0.25	0.075	0.070	0.050	0.530	0.1514
JUN 19,87	JUN 18,87	1.14	0.35	0.220	0.070	0.055	0.900	0.1778
JUN 23,87	JUN 22,87	*****	*****	*****	*****	*****	*****	*****
JUN 26,87	JUN 25,87	0.28	0.25	0.050	0.040	0.035	0.305	0.1413
JUN 27,87	JUN 26,87	!IS *****	0.15	!IS *****	!IS *****	!IS *****	0.575	0.0646
JUN 28,87	JUN 27,87	0.14	<W 0.01	<T 0.010	<T 0.010	<T 0.005	0.220	0.0079
JUN 29,87	JUN 28,87	0.12	<W 0.01	<T 0.015	<W 0.005	<T 0.015	0.160	D 0.0195
JUN 30,87	JUN 29,87	0.18	<T 0.05	<T 0.025	<T 0.015	<W 0.005	0.345	0.0537
JUL 4,87	JUL 3,87	0.28	0.10	0.045	0.050	<T 0.025	1.050	0.0977
JUL 10,87	JUL 9,87	*****	*****	*****	*****	*****	*****	*****
JUL 13,87	JUL 12,87	0.72	0.25	0.090	0.100	0.140	0.600	0.0407
JUL 14,87	JUL 13,87	<T 0.04	<T 0.05	<T 0.005	0.035	<T 0.020	0.095	0.0060
JUL 15,87	JUL 14,87	<T 0.02	0.10	<T 0.005	0.075	0.060	0.055	0.0032
JUL 20,87	JUL 18,87	0.38	0.15	0.055	0.060	0.035	0.230	0.0347
JUL 27,87	JUL 26,87	0.22	0.10	0.035	0.050	0.030	0.325	0.0437
AUG 3,87	AUG 2,87	0.20	0.10	<T 0.025	0.030	<T 0.015	0.370	0.1259
AUG 5,87	AUG 4,87	<T 0.06	<T 0.05	<T 0.015	0.035	<T 0.010	D 0.105	0.0331
AUG 8,87	AUG 7,87	0.92	0.30	0.145	0.065	0.035	0.515	0.1259
AUG 10,87	AUG 9,87	<T 0.04	<T 0.05	<T 0.005	<T 0.020	<T 0.010	<T 0.005	0.0240
AUG 14,87	AUG 13,87	D 1.10	0.76	D 0.195	0.050	0.040	0.485	D 0.3090
AUG 15,87	AUG 14,87	0.28	0.21	0.045	0.030	0.025	0.140	0.1380
AUG 17,87	AUG 16,87	0.58	0.36	0.130	0.090	0.270	0.585	0.0759
AUG 18,87	AUG 17,87	0.26	0.28	0.045	0.065	0.085	0.420	0.0776
AUG 19,87	AUG 18,87	0.12	0.08	<T 0.015	0.040	0.025	0.055	0.0200
AUG 20,87	AUG 19,87	*****	*****	*****	*****	*****	*****	*****
AUG 22,87	AUG 21,87	0.22	<W 0.01	0.035	<T 0.025	<T 0.015	0.260	0.0309
AUG 24,87	AUG 23,87	0.10	<W 0.01	<T 0.020	0.035	0.035	LG 0.030	UG 0.0020

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
AUG 29,87	AUG 28,87	730 800	400 500	1	1.4	1	49535	2	1	81	
AUG 30,87	AUG 29,87	800 800	1700 1730	1	****	1	49536	2	1	****	E
AUG 31,87	AUG 30,87	800 740	400 500	1	27.2	1	49537	2	1	100	
SEP 1,87	AUG 31,87	740 740	600 700	1	1.2	1	49540	2	1	52	HM
SEP 2,87	SEP 1,87	740 740	400 500	1	****	1	49541	2	1	****	HM
SEP 8,87	SEP 7,87	800 700	500 600	1	1.4	1	49542	2	1	73	C
SEP 9,87	SEP 8,87	700 730	1800 1900	1	0.8	1	49543	2	1	46	NHM
SEP 20,87	SEP 19,87	900 900	900 1200	1	11.0	1	49545	2	1	79	
SEP 21,87	SEP 20,87	900 700	1200 1400	1	10.0	1	49546	2	1	88	
SEP 22,87	SEP 21,87	700 710	1300 1400	1	1.0	1	49547	2	1	74	
SEP 24,87	SEP 23,87	745 745	2030 100	1	4.2	1	49548	2	1	90	
SEP 28,87	SEP 27,87	830 720	1800 1900	1	4.8	1	49549	2	1	101	
SEP 29,87	SEP 28,87	720 700	500 530	1	0.8	1	49550	2	1	70	
SEP 30,87	SEP 29,87	700 720	1300 1800	1	8.0	1	49551	2	1	104	
OCT 1,87	SEP 30,87	720 720	1700 1830	1	2.0	1	49552	2	1	77	HCM
OCT 2,87	OCT 1,87	720 745	1900 2100	1	10.2	1	49553	2	1	108	H
OCT 3,87	OCT 2,87	745 830	1500 1600	1	3.0	1	49554	2	1	85	C
OCT 6,87	OCT 5,87	720 730	400 500	1	2.2	1	49555	2	1	97	
OCT 7,87	OCT 6,87	730 720	1730 1830	1	4.4	1	49556	2	1	95	C
OCT 8,87	OCT 7,87	720 745	1830 1930	1	****	1	49557	2	1	****	J
OCT 10,87	OCT 9,87	715 800	815 930	3	3.8	1	49558	2	1	98	
OCT 12,87	OCT 11,87	800 800	630 800	3	1.0	1	49559	2	1	****	G
OCT 13,87	OCT 12,87	800 730	800 1100	3	3.2	1	49560	2	1	68	
OCT 19,87	OCT 17,87	800 745	****	1	21.8	1	49561	2	1	97	Y2
OCT 20,87	OCT 19,87	745 745	500 600	1	1.0	1	49564	2	1	65	
OCT 21,87	OCT 20,87	745 730	900 1200	3	4.2	1	49565	2	1	117	
OCT 23,87	OCT 22,87	730 800	300 500	3	6.8	1	49566	2	1	185	NM
OCT 25,87	OCT 24,87	730 800	1400 1700	3	22.6	1	49567	2	1	92	
OCT 28,87	OCT 27,87	800 730	500 1200	1	22.4	1	49568	2	1	99	
OCT 31,87	OCT 30,87	715 800	900 1100	1	1.0	2	49569	2	1	229	N
NOV 3,87	NOV 2,87	730 700	500 700	1	2.6	2	49570	2	1	125	N
NOV 4,87	NOV 3,87	700 730	700 1100	1	2.6	2	49571	2	1	125	N
NOV 5,87	NOV 4,87	730 745	1000 1200	1	3.0	2	49572	2	1	132	N
NOV 6,87	NOV 5,87	745 745	1500 1700	3	1.0	2	49573	2	1	176	N
NOV 7,87	NOV 6,87	745 800	500 700	2	1.0	2	49574	2	1	115	HM
NOV 9,87	NOV 7,87	800 800	900 1200	1	7.0	2	49575	2	1	97	Y2
NOV 12,87	NOV 11,87	715 730	400 500	3	0.1	2	49576	2	1	311	N
NOV 18,87	NOV 17,87	735 730	1700 1830	1	5.4	2	49578	2	1	130	N
NOV 19,87	NOV 18,87	730 745	1000 1300	1	4.4	2	49579	2	1	120	N
NOV 20,87	NOV 19,87	745 750	200 400	3	4.1	2	49580	2	1	105	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
AUG 29,87	AUG 28,87	73.0	45.5	*****	4.00	*****	0.1440	5.65	0.24
AUG 30,87	AUG 29,87	3.0	*****	*****	*****	*****	*****	*****	*****
AUG 31,87	AUG 30,87	1745.0	13.0	4.77	4.72	*****	0.0425	1.45	0.16
SEP 1,87	AUG 31,87	40.0	5.0	*****	5.27	*****	0.0231	0.55	0.09
SEP 2,87	SEP 1,87	22.0	5.0	*****	5.67	*****	0.0184	0.65	0.08
SEP 8,87	SEP 7,87	66.0	100.0	*****	3.49	*****	0.3870	17.15	2.38
SEP 9,87	SEP 8,87	24.0	20.0	*****	4.42	*****	0.0645	2.45	0.21
SEP 20,87	SEP 19,87	564.0	20.5	4.26	4.39	*****	0.0680	1.55	0.29
SEP 21,87	SEP 20,87	565.0	32.0	4.11	4.16	*****	0.0947	2.75	0.36
SEP 22,87	SEP 21,87	48.0	17.0	*****	4.52	*****	0.0530	1.55	0.27
SEP 24,87	SEP 23,87	245.0	14.8	4.45	4.58	*****	0.0532	1.85	0.12
SEP 28,87	SEP 27,87	313.0	14.0	4.51	4.69	*****	0.0402	1.40	0.27
SEP 29,87	SEP 28,87	36.0	100.0	*****	3.63	*****	!IR *****	10.00	2.00
SEP 30,87	SEP 29,87	537.0	48.0	D 3.96	4.02	*****	D 0.1250	5.10	0.55
OCT 1,87	SEP 30,87	99.0	9.4	4.36	4.43	*****	D 0.0588	2.05	0.11
OCT 2,87	OCT 1,87	709.0	17.3	4.88	5.24	*****	0.0252	2.45	0.60
OCT 3,87	OCT 2,87	164.0	8.9	UG 5.98	UG 6.37	*****	0.0187	1.90	0.24
OCT 6,87	OCT 5,87	137.0	39.1	4.10	4.17	*****	0.0955	3.35	1.00
OCT 7,87	OCT 6,87	269.0	53.4	U 5.99	U 6.76	*****	U 0.0227	10.95	2.18
OCT 8,87	OCT 7,87	13.0	7.0	*****	5.01	*****	0.0293	0.65	0.24
OCT 10,87	OCT 9,87	239.0	36.0	4.41	4.50	*****	0.0638	4.05	1.31
OCT 12,87	OCT 11,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 13,87	OCT 12,87	140.0	31.0	4.24	4.30	*****	0.0734	2.60	0.68
OCT 19,87	OCT 17,87	1359.0	25.0	4.29	4.33	*****	0.0654	2.35	0.40
OCT 20,87	OCT 19,87	42.0	100.0	*****	3.57	*****	UG 0.3070	15.30	2.50
OCT 21,87	OCT 20,87	317.0	79.0	3.71	3.79	*****	0.2180	6.75	1.69
OCT 23,87	OCT 22,87	807.0	18.0	4.36	4.42	*****	0.0596	1.20	0.59
OCT 25,87	OCT 24,87	1347.0	25.0	4.20	4.28	*****	0.0799	1.95	0.71
OCT 28,87	OCT 27,87	1433.0	25.0	4.18	4.24	*****	0.0823	2.55	0.37
OCT 31,87	OCT 30,87	147.0	71.0	3.88	3.87	*****	0.1730	4.65	3.05
NOV 3,87	NOV 2,87	210.0	35.0	4.03	4.07	*****	0.1110	3.30	0.65
NOV 4,87	NOV 3,87	210.0	36.0	4.10	4.14	*****	0.1010	3.55	0.98
NOV 5,87	NOV 4,87	254.0	20.0	4.42	4.49	*****	0.0574	2.55	0.57
NOV 6,87	NOV 5,87	113.0	8.0	4.80	4.74	*****	0.0371	1.50	0.10
NOV 7,87	NOV 6,87	74.0	5.0	*****	5.51	*****	0.0202	1.00	0.23
NOV 9,87	NOV 7,87	436.0	37.0	*****	4.10	*****	0.1100	2.65	1.27
NOV 12,87	NOV 11,87	20.0	9.0	*****	5.01	*****	0.0320	1.25	0.52
NOV 18,87	NOV 17,87	452.0	18.0	D 4.35	D 4.43	*****	D 0.0571	2.25	0.37
NOV 19,87	NOV 18,87	340.0	7.0	4.79	4.81	*****	0.0342	1.05	0.13
NOV 20,87	NOV 19,87	277.0	10.0	4.69	4.71	*****	0.0405	0.90	0.50

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 9

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
AUG 29,87	AUG 28,87	0.54	0.16	0.065	0.055	0.065	0.065	0.1000
AUG 30,87	AUG 29,87	*****	*****	*****	*****	*****	*****	*****
AUG 31,87	AUG 30,87	<T 0.04	<W 0.01	<T 0.005	<T 0.015	<T 0.005	0.225	0.0191
SEP 1,87	AUG 31,87	<T 0.06	D 0.12	<T 0.010	D 0.075	0.085	LG 0.030	0.0054
SEP 2,87	SEP 1,87	0.34	0.10	0.045	0.065	0.110	0.055	UG 0.0021
SEP 8,87	SEP 7,87	1.62	0.50	0.260	0.180	0.085	1.250	LG 0.3236
SEP 9,87	SEP 8,87	0.48	0.08	0.045	0.065	0.065	0.210	0.0380
SEP 20,87	SEP 19,87	0.12	0.05	<T 0.020	0.025	<T 0.010	0.055	0.0407
SEP 21,87	SEP 20,87	<T 0.10	D 0.12	<T 0.005	D 0.060	D 0.055	0.210	0.0692
SEP 22,87	SEP 21,87	0.16	D 0.31	<T 0.020	D 0.215	D 0.210	0.190	0.0302
SEP 24,87	SEP 23,87	0.22	<T 0.02	0.035	0.075	0.030	0.150	0.0263
SEP 28,87	SEP 27,87	0.42	<T 0.02	0.045	D 0.050	<T 0.020	0.115	0.0204
SEP 29,87	SEP 28,87	!IS *****	0.82	!IS *****	!IS *****	!IS *****	!IS *****	0.2344
SEP 30,87	SEP 29,87	0.34	0.12	0.040	0.050	0.040	0.475	0.0955
OCT 1,87	SEP 30,87	0.36	<T 0.03	0.040	0.035	0.040	0.100	0.0372
OCT 2,87	OCT 1,87	0.72	<T 0.04	0.125	0.070	0.035	0.605	0.0058
OCT 3,87	OCT 2,87	0.54	<T 0.03	0.105	0.120	0.115	0.325	UG 0.0004
OCT 6,87	OCT 5,87	0.90	0.14	0.115	0.060	0.055	0.415	0.0676
OCT 7,87	OCT 6,87	U 2.36	U 0.72	U 0.530	U 0.215	U 2.720	U 1.150	U 0.0002
OCT 8,87	OCT 7,87	0.20	0.07	0.025	D 0.030	D 0.065	0.080	0.0098
OCT 10,87	OCT 9,87	1.60	0.27	0.220	0.130	0.075	0.770	0.0316
OCT 12,87	OCT 11,87	*****	*****	*****	*****	*****	*****	*****
OCT 13,87	OCT 12,87	0.52	0.11	0.065	0.035	0.040	0.425	0.0501
OCT 19,87	OCT 17,87	0.10	<T 0.04	<T 0.010	<T 0.025	<T 0.015	0.425	0.0468
OCT 20,87	OCT 19,87	0.58	0.49	0.070	0.165	0.125	!IS *****	0.2692
OCT 21,87	OCT 20,87	0.18	0.34	0.030	0.050	0.030	0.950	0.1622
OCT 23,87	OCT 22,87	<T 0.02	0.12	<T 0.010	<T 0.015	<T 0.015	0.195	0.0380
OCT 25,87	OCT 24,87	0.10	0.14	<T 0.010	<T 0.020	<T 0.010	0.365	0.0525
OCT 28,87	OCT 27,87	<T 0.02	0.20	<T 0.005	<T 0.020	<T 0.010	0.150	0.0575
OCT 31,87	OCT 30,87	1.42	0.82	0.210	0.205	0.115	1.250	0.1349
NOV 3,87	NOV 2,87	0.16	0.24	<T 0.015	0.065	0.070	0.210	0.0851
NOV 4,87	NOV 3,87	0.24	0.37	0.025	0.130	0.110	0.745	0.0724
NOV 5,87	NOV 4,87	<T 0.04	0.22	<T 0.010	0.080	0.040	0.715	0.0324
NOV 6,87	NOV 5,87	0.14	<T 0.01	<T 0.020	D 0.055	0.035	<T 0.020	0.0182
NOV 7,87	NOV 6,87	0.20	0.25	0.045	0.140	0.090	0.105	0.0031
NOV 9,87	NOV 7,87	0.26	<T 0.05	<T 0.025	0.070	0.025	0.650	0.0794
NOV 12,87	NOV 11,87	0.28	0.11	0.050	0.060	0.055	0.475	0.0098
NOV 18,87	NOV 17,87	0.42	0.40	0.055	0.030	0.225	0.150	D 0.0372
NOV 19,87	NOV 18,87	<T 0.08	0.05	<T 0.010	<T 0.020	<T 0.015	0.135	0.0155
NOV 20,87	NOV 19,87	0.20	0.09	0.035	0.030	0.025	0.275	0.0195



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
NOV 22,87	NOV 21,87	730 800	1100 1300	3	****	2	49581	2	1	****	X
NOV 24,87	NOV 23,87	745 730	1030 1400	1	4.4	2	49582	2	1	U 198	P
NOV 25,87	NOV 24,87	730 730	930 1100	1	****	2	49583	2	1	****	X
NOV 26,87	NOV 25,87	730 730	900 1300	2	17.4	2	49584	2	1	62	CM
NOV 30,87	NOV 29,87	900 745	1000 1400	1	12.2	2	49585	2	1	87	M
DEC 1,87	NOV 30,87	745 730	1400 1500	3	0.8	2	49586	2	1	163	N
DEC 3,87	DEC 2,87	730 730	300 500	2	0.2	2	49587	2	1	850	C NHM
DEC 9,87	DEC 8,87	730 730	830 1300	1	9.2	2	49589	2	1	79	
DEC 10,87	DEC 9,87	730 800	730 1200	1	14.2	2	49590	2	1	100	
DEC 11,87	DEC 10,87	800 745	800 900	1	1.0	2	49593	2	1	190	NM
DEC 14,87	DEC 12,87	900 730	400 630	3	11.6	2	49594	2	1	91	Y2
DEC 15,87	DEC 14,87	730 730	1000 1100	3	1.0	2	49595	2	1	121	NHM
DEC 16,87	DEC 15,87	730 745	1000 1500	2	21.2	2	49596	2	1	46	C N
DEC 17,87	DEC 16,87	745 730	300 400	2	****	2	49597	2	1	****	X
DEC 19,87	DEC 18,87	720 800	900 1100	2	2.4	2	49598	2	1	43	N
DEC 21,87	DEC 20,87	800 745	1000 1200	3	15.0	2	49599	2	1	83	
DEC 22,87	DEC 21,87	815 800	900 1200	3	8.4	2	49600	2	1	80	
DEC 23,87	DEC 22,87	815 800	1000 1200	2	3.2	2	49601	2	1	34	N
DEC 24,87	DEC 23,87	800 800	1500 1700	2	0.2	2	49602	2	1	327	N
DEC 26,87	DEC 25,87	900 900	1000 1100	3	4.4	2	49603	2	1	91	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 11

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
NOV 22,87	NOV 21,87	6.0	*****	*****	*****	*****	*****	*****	*****
NOV 24,87	NOV 23,87	560.0	39.0	4.12	4.13	*****	0.1040	4.10	1.32
NOV 25,87	NOV 24,87	4.0	*****	*****	*****	*****	*****	*****	*****
NOV 26,87	NOV 25,87	692.0	LG 2.0	4.96	5.07	*****	0.0245	0.25	0.11
NOV 30,87	NOV 29,87	685.0	11.0	4.56	4.70	*****	0.0410	1.00	0.20
DEC 1,87	NOV 30,87	84.0	20.0	*****	4.51	*****	0.0582	1.15	0.58
DEC 3,87	DEC 2,87	109.0	5.0	UG 6.64	B 6.94	*****	D 0.0174	0.90	0.14
DEC 9,87	DEC 8,87	466.0	46.0	3.99	3.93	*****	0.1280	3.45	0.63
DEC 10,87	DEC 9,87	913.0	28.0	4.29	4.24	*****	0.0780	2.60	0.40
DEC 11,87	DEC 10,87	122.0	13.0	4.56	4.66	*****	0.0431	1.00	0.29
DEC 14,87	DEC 12,87	678.0	21.0	4.37	4.41	*****	0.0633	1.30	0.57
DEC 15,87	DEC 14,87	78.0	6.0	*****	UG 6.82	*****	D 0.0173	1.10	0.16
DEC 16,87	DEC 15,87	634.0	D 6.5	D 4.91	D 4.97	*****	0.0308	0.60	0.31
DEC 17,87	DEC 16,87	1.0	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	67.0	25.0	*****	B 6.74	*****	D 0.0218	2.55	1.28
DEC 21,87	DEC 20,87	802.0	11.0	4.65	4.70	*****	0.0438	1.00	0.36
DEC 22,87	DEC 21,87	435.0	10.0	4.91	4.98	*****	0.0341	0.70	0.47
DEC 23,87	DEC 22,87	70.0	21.0	*****	4.52	*****	0.0581	0.85	0.97
DEC 24,87	DEC 23,87	42.0	21.0	*****	B 7.04	*****	0.0215	1.25	1.06
DEC 26,87	DEC 25,87	258.0	27.5	4.24	4.29	*****	0.0828	2.20	0.60



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NITHGROVE/DAILY/AEROCHEM

#07

PAGE : 12

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
NOV 22,87	NOV 21,87	*****	*****	*****	*****	*****	*****	*****
NOV 24,87	NOV 23,87	0.60	0.37	0.070	0.075	0.195	1.000	0.0741
NOV 25,87	NOV 24,87	*****	*****	*****	*****	*****	*****	*****
NOV 26,87	NOV 25,87	<T 0.02	<T 0.01	<T 0.005	<W 0.005	<W 0.005	<T 0.005	0.0085
NOV 30,87	NOV 29,87	<T 0.04	<T 0.03	<W 0.005	<T 0.010	<T 0.015	0.030	0.0200
DEC 1,87	NOV 30,87	0.12	0.12	<T 0.010	0.040	0.030	0.215	0.0309
DEC 3,87	DEC 2,87	<W 0.02	0.05	<W 0.005	<T 0.025	0.025	0.630	B 0.0001
DEC 9,87	DEC 8,87	0.16	0.47	0.030	D 0.045	0.160	0.145	0.1175
DEC 10,87	DEC 9,87	<T 0.08	0.14	<T 0.010	<T 0.015	0.045	0.240	0.0575
DEC 11,87	DEC 10,87	<T 0.04	D 0.07	<W 0.005	D 0.030	0.030	0.075	0.0219
DEC 14,87	DEC 12,87	<T 0.04	0.09	<T 0.005	<T 0.010	<T 0.015	0.240	0.0389
DEC 15,87	DEC 14,87	<T 0.02	D 0.06	<W 0.005	0.035	0.025	D 0.660	UG 0.0002
DEC 16,87	DEC 15,87	<T 0.04	<W 0.01	<W 0.005	<T 0.005	<T 0.010	D 0.210	D 0.0107
DEC 17,87	DEC 16,87	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	0.58	0.68	0.085	0.045	0.205	D 2.150	B 0.0002
DEC 21,87	DEC 20,87	D 0.20	0.08	<T 0.025	<T 0.005	<T 0.020	D 0.285	0.0200
DEC 22,87	DEC 21,87	0.20	0.20	0.040	<T 0.010	0.035	0.315	0.0105
DEC 23,87	DEC 22,87	0.18	0.18	0.030	<T 0.020	0.035	0.585	0.0302
DEC 24,87	DEC 23,87	<T 0.10	0.24	<T 0.015	0.080	0.075	D 2.350	B 0.0001
DEC 26,87	DEC 25,87	0.12	0.13	<T 0.015	<T 0.010	0.025	0.435	0.0513

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 3,87	JAN 2,87	905 900	1800 2200	2	1.4	2	48029	2	1	65	
JAN 7,87	JAN 6,87	900 900	500 900	3	2.2	2	48030	2	1	101	T
JAN 8,87	JAN 7,87	900 900	900 1000	2	****	2	48031	2	1	****	E
JAN 9,87	JAN 8,87	900 850	900 1230	3	1.2	2	48032	2	1	62	H
JAN 10,87	JAN 9,87	850 900	200 900	2	5.6	2	48033	2	1	41	NC
JAN 11,87	JAN 10,87	900 900	1700 100	2	3.8	2	48034	2	1	27	N
JAN 13,87	JAN 12,87	900 900	930 1130	2	0.4	2	48035	2	1	89	
JAN 15,87	JAN 14,87	900 930	800 930	3	0.6	2	48036	2	1	161	N
JAN 16,87	JAN 15,87	930 900	930 1130	2	0.2	2	48037	2	1	179	N
JAN 18,87	JAN 17,87	930 920	300 900	2	6.2	2	48039	2	1	55	
JAN 19,87	JAN 18,87	920 900	900 1420	2	3.4	2	48040	2	1	76	
JAN 23,87	JAN 22,87	930 850	1830 100	2	3.0	2	48043	2	1	47	NC
JAN 24,87	JAN 23,87	850 900	1600 300	2	6.2	2	48044	2	1	70	C
JAN 25,87	JAN 24,87	900 900	1430 200	2	4.8	2	48045	2	1	23	N
JAN 29,87	JAN 28,87	915 900	1700 100	2	0.3	2	48047	2	1	46	E
JAN 30,87	JAN 29,87	900 910	300 900	2	3.2	2	48048	2	1	4	N
JAN 31,87	JAN 30,87	910 900	****	2	9.4	2	48049	2	1	15	N
FEB 2,87	FEB 1,87	900 910	****	2	1.6	2	48050	2	1	62	N
FEB 3,87	FEB 2,87	910 900	1230 500	2	4.4	2	48051	2	1	79	C
FEB 4,87	FEB 3,87	900 900	1120 500	2	****	2	48052	2	1	****	E
FEB 5,87	FEB 4,87	900 900	920 1000	2	1.2	2	48053	2	1	41	N
FEB 7,87	FEB 6,87	915 915	1700 100	2	2.4	2	48055	2	1	50	
FEB 8,87	FEB 7,87	915 900	200 900	2	4.7	2	48056	2	1	53	
FEB 9,87	FEB 8,87	900 900	900 2130	2	6.6	2	48057	2	1	52	
FEB 10,87	FEB 9,87	900 900	600 900	2	0.6	2	48058	2	1	36	N
FEB 13,87	FEB 12,87	910 915	1830 2300	2	0.6	2	48060	2	1	70	C
FEB 23,87	FEB 22,87	915 915	1640 2000	2	1.0	2	48065	2	1	70	HCM
MAR 1,87	FEB 28,87	915 920	1230 920	1	10.2	2	48066	2	1	90	C
MAR 2,87	MAR 1,87	920 900	1315 900	3	17.0	2	48067	2	1	74	
MAR 3,87	MAR 2,87	900 910	900 1230	2	1.6	2	48070	2	1	12	U
MAR 4,87	MAR 3,87	910 900	900 1030	2	0.2	2	48071	2	1	15	GE
MAR 26,87	MAR 25,87	920 900	2100 900	1	5.5	2	48074	2	1	98	E
MAR 27,87	MAR 26,87	900 900	1540 2350	1	1.5	2	48075	2	1	133	N
MAR 28,87	MAR 27,87	900 900	1300 2330	1	0.4	2	48076	2	1	195	NHCH
MAR 30,87	MAR 29,87	900 900	100 900	1	7.3	2	48077	2	1	110	
MAR 31,87	MAR 30,87	900 900	1900 900	3	24.4	2	48078	2	1	64	
APR 1,87	MAR 31,87	900 900	900 2300	2	13.0	2	48079	2	1	41	NC
APR 2,87	APR 1,87	900 900	1830 200	2	4.5	2	48080	2	1	9	N
APR 3,87	APR 2,87	900 900	1600 1230	2	0.7	2	48081	2	1	35	N
APR 5,87	APR 4,87	900 900	900 330	3	11.0	2	48083	2	1	109	C

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 3,87	JAN 2,87	59.0	6.1	*****	4.87	*****	0.0284	<T 0.15	0.24
JAN 7,87	JAN 6,87	143.0	92.2	LG 3.72	3.66	*****	0.2140	D 6.45	2.82
JAN 8,87	JAN 7,87	1.0	*****	*****	*****	*****	*****	*****	*****
JAN 9,87	JAN 8,87	48.0	36.4	*****	4.71	*****	0.0437	6.55	0.99
JAN 10,87	JAN 9,87	148.0	1.5	LG 4.81	4.89	*****	0.0321	0.70	0.51
JAN 11,87	JAN 10,87	66.0	32.0	*****	4.10	*****	0.0872	1.65	0.76
JAN 13,87	JAN 12,87	23.0	22.9	*****	4.26	*****	0.0654	2.10	0.18
JAN 15,87	JAN 14,87	62.0	> 100.0	*****	LG 3.52	*****	UG 0.3290	6.60	2.90
JAN 16,87	JAN 15,87	23.0	42.8	*****	4.15	*****	0.0880	2.25	1.73
JAN 18,87	JAN 17,87	219.0	12.6	4.52	4.52	*****	0.0426	<T 0.05	0.40
JAN 19,87	JAN 18,87	167.0	11.4	4.54	4.58	*****	0.0401	<T 0.10	0.30
JAN 23,87	JAN 22,87	91.0	24.3	*****	4.06	*****	0.0933	0.40	1.08
JAN 24,87	JAN 23,87	281.0	4.0	UG 5.06	5.29	*****	0.0196	<T 0.15	LG 0.05
JAN 25,87	JAN 24,87	71.0	8.8	*****	4.90	*****	0.0288	0.40	0.23
JAN 29,87	JAN 28,87	9.0	*****	*****	*****	*****	*****	*****	*****
JAN 30,87	JAN 29,87	9.0	8.0	*****	4.87	*****	0.0297	<T 0.10	0.20
JAN 31,87	JAN 30,87	95.0	38.8	*****	4.05	*****	0.0973	1.60	0.82
FEB 2,87	FEB 1,87	64.0	62.0	*****	3.94	*****	0.1360	3.25	1.97
FEB 3,87	FEB 2,87	225.0	24.1	*****	4.36	*****	0.0599	1.50	0.72
FEB 4,87	FEB 3,87	1.0	*****	*****	*****	*****	*****	*****	*****
FEB 5,87	FEB 4,87	32.0	6.3	*****	UG 6.15	*****	0.0170	0.80	0.16
FEB 7,87	FEB 6,87	78.0	28.6	*****	4.42	*****	0.0568	2.25	0.95
FEB 8,87	FEB 7,87	162.0	39.8	4.24	4.26	*****	0.0759	2.05	1.58
FEB 9,87	FEB 8,87	221.0	40.3	4.28	4.30	*****	0.0705	3.05	1.43
FEB 10,87	FEB 9,87	14.0	14.0	*****	4.89	*****	0.0323	0.75	0.64
FEB 13,87	FEB 12,87	27.0	23.0	*****	D 4.44	*****	0.0550	0.80	0.90
FEB 23,87	FEB 22,87	45.0	> 100.0	*****	LG 3.42	*****	UG 0.4710	5.85	2.51
MAR 1,87	FEB 28,87	594.0	12.8	4.53	4.70	*****	0.0403	0.75	0.21
MAR 2,87	MAR 1,87	817.0	25.8	4.24	4.32	*****	0.0702	1.35	0.48
MAR 3,87	MAR 2,87	13.0	*****	*****	*****	*****	*****	*****	*****
MAR 4,87	MAR 3,87	2.0	*****	*****	*****	*****	*****	*****	*****
MAR 26,87	MAR 25,87	346.0	41.0	4.05	4.20	*****	0.1020	2.85	0.82
MAR 27,87	MAR 26,87	128.0	50.0	3.98	4.01	*****	0.1320	3.25	1.09
MAR 28,87	MAR 27,87	50.0	> 100.0	*****	3.59	*****	UG 0.3060	8.80	2.56
MAR 30,87	MAR 29,87	519.0	48.0	3.98	4.03	*****	0.1290	3.90	0.84
MAR 31,87	MAR 30,87	1005.0	14.3	4.45	4.53	*****	0.0499	1.15	0.16
APR 1,87	MAR 31,87	344.0	6.2	4.85	5.00	*****	0.0312	0.30	LG 0.09
APR 2,87	APR 1,87	28.0	24.5	*****	4.31	*****	0.0730	D 1.15	0.61
APR 3,87	APR 2,87	16.0	14.0	*****	4.67	*****	0.0439	0.65	0.39
APR 5,87	APR 4,87	775.0	7.5	4.77	4.95	*****	0.0312	0.45	LG 0.08

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 3,87	JAN 2,87	0.12	0.09	<T 0.010	<T 0.010	0.045	<T 0.010	0.0135
JAN 7,87	JAN 6,87	0.44	0.45	0.060	0.075	0.140	1.900	0.2188
JAN 8,87	JAN 7,87	*****	*****	*****	*****	*****	*****	*****
JAN 9,87	JAN 8,87	2.00	0.46	0.100	0.085	0.280	1.280	0.0195
JAN 10,87	JAN 9,87	0.60	0.08	<T 0.015	<T 0.010	0.030	0.125	0.0129
JAN 11,87	JAN 10,87	0.10	0.20	<T 0.005	0.030	0.070	0.185	0.0794
JAN 13,87	JAN 12,87	<T 0.10	0.09	<T 0.010	<T 0.015	0.045	0.055	0.0550
JAN 15,87	JAN 14,87	0.42	0.94	0.035	0.140	0.245	!AD *****	LG 0.3020
JAN 16,87	JAN 15,87	!IS *****	0.24	!IS *****	!IS *****	!IS *****	1.330	0.0708
JAN 18,87	JAN 17,87	<T 0.08	0.10	<T 0.005	<T 0.005	0.025	<T 0.010	0.0302
JAN 19,87	JAN 18,87	<T 0.02	0.10	<W 0.005	<W 0.005	<T 0.005	<T 0.020	0.0263
JAN 23,87	JAN 22,87	<T 0.08	0.20	<T 0.010	0.025	0.040	0.110	0.0871
JAN 24,87	JAN 23,87	<T 0.04	0.12	<T 0.010	<T 0.015	0.060	<T 0.015	0.0051
JAN 25,87	JAN 24,87	0.18	0.13	<T 0.025	0.040	0.095	0.035	0.0126
JAN 29,87	JAN 28,87	*****	*****	*****	*****	*****	*****	*****
JAN 30,87	JAN 29,87	!IS *****	0.08	!IS *****	!IS *****	!IS *****	!IR *****	0.0135
JAN 31,87	JAN 30,87	<T 0.08	0.13	<T 0.005	<T 0.015	0.040	0.200	0.0891
FEB 2,87	FEB 1,87	1.00	0.92	0.105	0.215	0.550	0.775	0.1148
FEB 3,87	FEB 2,87	0.22	0.13	<T 0.015	0.025	0.080	0.525	0.0437
FEB 4,87	FEB 3,87	*****	*****	*****	*****	*****	*****	*****
FEB 5,87	FEB 4,87	0.52	0.22	<T 0.020	<T 0.020	0.125	0.060	UG 0.0007
FEB 7,87	FEB 6,87	D 0.40	0.21	0.040	0.035	0.090	0.850	0.0380
FEB 8,87	FEB 7,87	0.48	0.38	0.065	0.030	0.115	1.050	0.0550
FEB 9,87	FEB 8,87	0.24	0.27	0.035	0.045	0.060	1.550	0.0501
FEB 10,87	FEB 9,87	0.50	0.17	0.070	0.040	0.110	0.210	0.0129
FEB 13,87	FEB 12,87	0.68	0.33	D 0.050	0.035	0.245	0.085	D 0.0363
FEB 23,87	FEB 22,87	0.88	UG 1.65	0.100	0.035	0.275	0.210	LG 0.3802
MAR 1,87	FEB 28,87	<T 0.02	<W 0.01	<W 0.005	<W 0.005	<T 0.015	0.055	0.0200
MAR 2,87	MAR 1,87	<W 0.02	<T 0.04	<W 0.005	<W 0.005	<T 0.015	0.110	0.0479
MAR 3,87	MAR 2,87	*****	*****	*****	*****	*****	*****	*****
MAR 4,87	MAR 3,87	*****	*****	*****	*****	*****	*****	*****
MAR 26,87	MAR 25,87	0.14	<W 0.01	<T 0.020	<T 0.020	0.050	0.500	0.0631
MAR 27,87	MAR 26,87	0.16	<T 0.04	<T 0.010	<T 0.020	0.060	0.705	0.0977
MAR 28,87	MAR 27,87	2.20	0.93	0.240	0.065	0.240	1.750	0.2570
MAR 30,87	MAR 29,87	0.22	<W 0.01	<T 0.025	<T 0.025	0.045	0.670	0.0933
MAR 31,87	MAR 30,87	<T 0.02	<W 0.01	<W 0.005	<T 0.005	<T 0.015	0.035	0.0295
APR 1,87	MAR 31,87	<T 0.02	<W 0.01	<W 0.005	<T 0.010	<T 0.020	<T 0.015	0.0100
APR 2,87	APR 1,87	0.12	<W 0.01	<T 0.010	0.025	D 0.065	0.100	0.0490
APR 3,87	APR 2,87	0.28	0.21	0.035	0.035	0.095	<T 0.005	0.0214
APR 5,87	APR 4,87	<T 0.02	<W 0.01	<T 0.005	<T 0.005	0.025	<T 0.010	0.0112

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
APR 6,87	APR 5,87	900 900	1330 1500	1	0.2	2	48084	2	1	85	
APR 7,87	APR 6,87	900 900	1420 1500	1	****	2	48085	2	1	****	E
APR 15,87	APR 14,87	900 900	2300 130	1	0.4	2	48086	2	1	253	N
APR 22,87	APR 21,87	900 900	1900 1940	1	****	1	48087	2	1	****	E
APR 24,87	APR 23,87	900 915	825 1130	1	0.7	1	48088	2	1	62	C
APR 28,87	APR 27,87	900 910	1600 2100	1	7.6	1	48090	2	1	98	J
APR 29,87	APR 28,87	910 915	900 1400	1	6.8	1	48091	2	1	93	HM
APR 30,87	APR 29,87	915 900	2000 2300	1	6.4	1	48092	2	1	95	J
MAY 11,87	MAY 10,87	900 910	****	1	9.8	1	48094	2	1	104	JH
MAY 12,87	MAY 11,87	910 900	1230 1530	1	4.6	1	48095	2	1	100	JHC
MAY 15,87	MAY 14,87	900 910	1530 1700	1	20.6	1	48096	2	1	100	
MAY 19,87	MAY 18,87	900 900	****	1	0.2	1	48099	2	1	****	E
MAY 22,87	MAY 21,87	900 900	200 500	1	4.2	1	48100	2	1	101	N
MAY 23,87	MAY 22,87	900 900	10 230	1	0.8	1	48101	2	1	52	
MAY 24,87	MAY 23,87	900 900	900 1500	1	1.6	1	48102	2	1	68	
MAY 25,87	MAY 24,87	900 900	900 900	1	0.4	1	48103	2	1	****	E
MAY 27,87	MAY 26,87	800 900	1140 1530	1	3.0	1	48104	2	1	98	TC
MAY 28,87	MAY 27,87	900 900	1230 1315	1	0.2	1	48105	2	1	54	
JUN 1,87	MAY 31,87	900 900	1020 1215	1	1.2	1	48106	2	1	84	TC
JUN 2,87	JUN 1,87	915 900	525 830	1	4.0	1	48107	2	1	99	
JUN 4,87	JUN 3,87	900 910	1245 1400	1	1.6	1	48108	2	1	85	
JUN 6,87	JUN 5,87	910 915	900 1215	1	2.0	1	48109	2	1	84	JH
JUN 7,87	JUN 6,87	915 900	2340 300	1	1.6	1	48110	2	1	91	H
JUN 8,87	JUN 7,87	900 900	400 900	1	12.8	1	48111	2	1	100	J
JUN 9,87	JUN 8,87	900 900	900 1000	1	0.2	1	48114	2	1	116	
JUN 10,87	JUN 9,87	900 900	1090 103	1	****	2	48115	2	1	0	N
JUN 12,87	JUN 11,87	900 900	1530 1930	1	9.2	1	48116	2	1	100	
JUN 13,87	JUN 12,87	900 930	****	1	0.2	1	48117	2	1	62	
JUN 14,87	JUN 13,87	930 920	100 600	1	1.0	1	48118	2	1	74	
JUN 23,87	JUN 22,87	900 900	1000 1500	1	3.0	1	48120	2	1	97	X
JUN 26,87	JUN 25,87	900 900	320 820	1	4.0	1	48121	2	1	97	
JUN 27,87	JUN 26,87	900 900	1000 1730	1	0.4	1	48122	2	1	66	
JUN 28,87	JUN 27,87	900 900	1150 1230	1	5.8	1	48123	2	1	94	
JUN 29,87	JUN 28,87	900 900	530 900	1	6.0	1	48124	2	1	96	C
JUN 30,87	JUN 29,87	900 900	900 1200	1	15.0	1	48125	2	1	104	C
JUL 3,87	JUL 2,87	900 900	1930 2100	1	1.4	1	48128	2	1	81	C
JUL 4,87	JUL 3,87	900 900	1740 2000	1	13.6	1	48129	2	1	100	H
JUL 7,87	JUL 6,87	900 900	1900 2030	1	18.2	1	48132	2	1	99	B
JUL 8,87	JUL 7,87	900 900	2015 2300	1	7.6	1	48133	2	1	101	HM
JUL 9,87	JUL 8,87	900 920	1751 1900	1	0.2	1	48134	2	1	****	E

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME  ML	CONDUCT.  UMHO/CM		PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L		TOTAL H+ GRAN MG/L		SULPHATE  MG/L	NITRATE AS N MG/L
APR 6,87	APR 5,87	11.0	D 11.0		*****	4.77	*****	D	0.0384	D	1.05	0.12
APR 7,87	APR 6,87	2.0	*****		*****	*****	*****		*****		*****	*****
APR 15,87	APR 14,87	65.0	61.0		*****	3.94	*****		0.1660		8.35	1.29
APR 22,87	APR 21,87	1.0	*****		*****	*****	*****		*****		*****	*****
APR 24,87	APR 23,87	28.0	> 100.0		*****	LG 3.51	*****	UG	0.3900	UG	14.00	3.05
APR 28,87	APR 27,87	482.0	20.0	UG	5.67	UG 6.76	*****		0.0179		2.85	1.20
APR 29,87	APR 28,87	406.0	9.0		4.56	4.76	*****		0.0378		1.20	LG 0.06
APR 30,87	APR 29,87	390.0	9.0		4.49	UG 6.12	*****		0.0167		2.45	0.23
MAY 11,87	MAY 10,87	654.0	50.0		4.10	4.79	*****		0.0759		7.55	1.51
MAY 12,87	MAY 11,87	297.0	44.0		4.04	4.51	*****		0.0829		6.35	0.67
MAY 15,87	MAY 14,87	1322.0	45.0		4.15	4.24	*****		0.0874		7.00	1.00
MAY 19,87	MAY 18,87	*****	*****		*****	*****	*****		*****		*****	*****
MAY 22,87	MAY 21,87	273.0	87.0		3.70	3.66	*****		0.2260		8.30	1.20
MAY 23,87	MAY 22,87	27.0	D 75.0		*****	D 3.95	*****		0.1380		7.50	2.70
MAY 24,87	MAY 23,87	70.0	32.0		*****	4.22	*****		0.0798		3.20	0.65
MAY 25,87	MAY 24,87	*****	*****		*****	*****	*****		*****		*****	*****
MAY 27,87	MAY 26,87	189.0	> 100.0	LG	3.46	LG 3.41	*****	UG	0.3850		16.50	1.80
MAY 28,87	MAY 27,87	7.0	D 39.5		*****	D 4.03	*****	D	0.1040	D	3.50	0.79
JUN 1,87	MAY 31,87	65.0	> 100.0		*****	D 3.52	*****	B	0.2910		10.75	1.58
JUN 2,87	JUN 1,87	254.0	36.9		4.06	4.08	*****		0.0966		3.25	0.81
JUN 4,87	JUN 3,87	88.0	27.2		*****	4.29	*****		0.0659		3.15	0.54
JUN 6,87	JUN 5,87	108.0	9.6		4.69	5.29	*****		0.0251		1.30	0.16
JUN 7,87	JUN 6,87	94.0	37.4		*****	4.22	*****	D	0.0763		4.70	1.13
JUN 8,87	JUN 7,87	827.0	12.8		4.77	UG 6.19	*****		0.0223		1.60	0.45
JUN 9,87	JUN 8,87	15.0	10.7		*****	4.89	*****		0.0300		1.05	0.13
JUN 10,87	JUN 9,87	5.0	D 23.0	LG	*****	<=> 4.40	*****	D	0.0664	D	2.15	0.11
JUN 12,87	JUN 11,87	595.0	57.1		3.85	3.89	*****		0.1520		6.65	0.77
JUN 13,87	JUN 12,87	8.0	11.2		*****	5.19	*****		0.0286		1.15	0.34
JUN 14,87	JUN 13,87	48.0	21.9		*****	4.44	*****		0.0631		2.05	0.36
JUN 23,87	JUN 22,87	187.0	*****		*****	*****	*****		*****		*****	*****
JUN 26,87	JUN 25,87	249.0	> 100.0	D	3.63	D 3.63	*****		*****	D	9.40	1.70
JUN 27,87	JUN 26,87	17.0	32.0		*****	4.29	*****		0.0801		4.70	0.30
JUN 28,87	JUN 27,87	352.0	16.6		4.47	4.64	*****		0.0428		1.00	0.40
JUN 29,87	JUN 28,87	373.0	LG 0.3		4.19	4.31	*****		0.0733		3.35	0.65
JUN 30,87	JUN 29,87	1008.0	LG 0.6		4.01	4.04	*****		0.1230		7.65	1.15
JUL 3,87	JUL 2,87	73.0	LG 0.3		*****	4.23	*****		0.0843		2.20	0.60
JUL 4,87	JUL 3,87	874.0	20.1		4.41	4.58	*****		0.0490		2.20	0.25
JUL 7,87	JUL 6,87	1161.0	64.8		3.81	3.83	*****		0.1760		6.70	0.65
JUL 8,87	JUL 7,87	494.0	14.6		4.43	4.63	*****		0.0418		0.60	0.20
JUL 9,87	JUL 8,87	*****	*****		*****	*****	*****		*****		*****	*****



\$05

PAGE : 6

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ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JUL 14,87	JUL 13,87	900 920	100 920	1	24.8	1	48136	2	1	55	
JUL 15,87	JUL 14,87	920 900	920 1315	1	2.8	1	48137	2	1	93	
JUL 20,87	JUL 19,87	900 900	2230 730	1	13.6	1	48138	2	1	102	
JUL 30,87	JUL 29,87	900 900	2230 200	1	2.8	1	48140	2	1	87	
AUG 3,87	AUG 2,87	915 915	1200 1630	1	6.0	1	48141	2	1	95	J
AUG 8,87	AUG 7,87	900 900	1600 1800	1	3.0	1	48142	2	1	92	
AUG 10,87	AUG 9,87	900 900	830 1400	1	9.8	1	48143	2	1	102	M
AUG 15,87	AUG 14,87	900 830	600 830	1	0.5	1	48144	2	1	62	HCM
AUG 17,87	AUG 16,87	830 900	1950 2010	1	0.2	1	48145	2	1	116	
AUG 18,87	AUG 17,87	900 900	925 935	1	3.2	1	48146	2	1	98	
AUG 22,87	AUG 21,87	900 850	400 700	1	5.2	1	48147	2	1	106	
AUG 26,87	AUG 25,87	850 900	1010 1054	1	0.8	1	48148	2	1	89	
AUG 27,87	AUG 26,87	900 800	****	1	****	1	48149	2	1	****	E
AUG 29,87	AUG 28,87	910 900	400 650	1	1.8	1	48150	2	1	88	H
AUG 31,87	AUG 30,87	900 820	200 700	1	9.0	1	48152	2	1	101	
SEP 1,87	AUG 31,87	820 900	1500 1600	1	2.2	1	48153	2	1	90	
SEP 2,87	SEP 1,87	900 900	1656 1705	1	0.3	1	48154	2	1	52	Q C
SEP 9,87	SEP 8,87	800 800	1030 1630	1	6.8	1	48156	2	1	64	
SEP 10,87	SEP 9,87	800 900	900 1130	1	0.8	1	48157	2	1	74	T
SEP 12,87	SEP 11,87	800 800	2118 2230	1	4.8	1	48158	2	1	101	
SEP 14,87	SEP 13,87	900 900	1817 1930	1	2.5	1	48159	2	1	87	
SEP 17,87	SEP 16,87	900 900	500 900	1	1.3	1	48161	2	1	73	
SEP 18,87	SEP 17,87	900 900	2100 ****	1	6.8	1	48162	2	1	95	
SEP 19,87	SEP 18,87	900 910	900 930	1	1.0	1	48163	2	1	84	
SEP 20,87	SEP 19,87	910 900	1400 2200	1	9.6	1	48164	2	1	104	
SEP 21,87	SEP 20,87	900 900	1130 1210	1	7.6	1	48165	2	1	97	
SEP 22,87	SEP 21,87	900 915	1050 1230	1	3.8	1	48166	2	1	96	
SEP 26,87	SEP 25,87	900 900	830 845	1	****	1	48168	2	1	****	C
SEP 28,87	SEP 27,87	900 900	630 930	1	4.3	1	48169	2	1	97	
SEP 30,87	SEP 29,87	900 910	1500 2200	1	16.0	1	48170	2	1	83	H
OCT 1,87	SEP 30,87	910 900	1940 1230	1	6.6	1	48173	2	1	93	C
OCT 2,87	OCT 1,87	900 900	2030 300	1	5.4	1	48174	2	1	97	CD
OCT 3,87	OCT 2,87	900 900	1630 1735	1	1.6	1	48175	2	1	85	
OCT 6,87	OCT 5,87	900 900	2215 2230	1	0.1	1	48176	2	1	62	
OCT 8,87	OCT 7,87	900 900	1320 2230	1	9.4	1	48177	2	1	94	M
OCT 10,87	OCT 9,87	810 830	745 900	1	2.0	1	48179	2	1	87	
OCT 13,87	OCT 12,87	830 900	1400 1430	1	0.2	1	48180	2	1	109	
OCT 18,87	OCT 17,87	900 900	1430 1500	1	4.8	1	48181	2	1	95	
OCT 19,87	OCT 18,87	900 900	845 920	1	0.2	1	48182	2	1	****	E N
OCT 20,87	OCT 19,87	900 830	****	1	0.3	1	48183	2	1	93	



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JUL 14,87	JUL 13,87	881.0	8.9	4.73	5.05	*****	0.0270	0.95	0.20
JUL 15,87	JUL 14,87	167.0	7.3	4.71	4.91	*****	D 0.0308	0.40	0.15
JUL 20,87	JUL 19,87	894.0	14.0	4.43	4.63	*****	0.0443	1.25	0.25
JUL 30,87	JUL 29,87	157.0	27.7	4.64	4.85	*****	0.0356	4.20	1.20
AUG 3,87	AUG 2,87	366.0	40.4	4.71	4.02	*****	0.1120	4.20	0.55
AUG 8,87	AUG 7,87	177.0	50.8	4.07	4.12	*****	0.1030	6.60	1.30
AUG 10,87	AUG 9,87	646.0	12.2	4.48	4.54	*****	0.0440	0.95	0.10
AUG 15,87	AUG 14,87	20.0	> 100.0	*****	B 3.41	*****	B 0.4870	> 10.00	> 2.00
AUG 17,87	AUG 16,87	15.0	29.5	*****	4.40	*****	0.0710	4.30	0.69
AUG 18,87	AUG 17,87	202.0	19.0	*****	4.59	*****	0.0494	2.95	0.43
AUG 22,87	AUG 21,87	354.0	27.5	4.16	4.31	*****	0.0802	2.75	0.54
AUG 26,87	AUG 25,87	46.0	!LA *****	*****	!LA *****	*****	!LA *****	!LA *****	!LA *****
AUG 27,87	AUG 26,87	3.0	*****	*****	*****	*****	*****	*****	*****
AUG 29,87	AUG 28,87	102.0	25.0	4.34	4.48	*****	B 0.4570	3.50	0.49
AUG 31,87	AUG 30,87	588.0	30.0	4.27	4.23	*****	0.0846	3.35	0.46
SEP 1,87	SEP 31,87	128.0	4.5	5.06	5.31	*****	0.0274	0.60	0.11
SEP 2,87	SEP 1,87	10.0	4.0	*****	UG 5.78	*****	0.0167	0.35	<T 0.04
SEP 9,87	SEP 8,87	282.0	27.0	4.23	4.28	*****	0.0687	2.10	0.38
SEP 10,87	SEP 9,87	38.0	!IS *****	*****	4.15	*****	0.0632	!IS *****	!IS *****
SEP 12,87	SEP 11,87	311.0	89.0	3.72	3.73	*****	0.2110	8.40	0.79
SEP 14,87	SEP 13,87	140.0	55.0	3.97	4.01	*****	0.1230	4.90	0.90
SEP 17,87	SEP 16,87	61.0	47.0	*****	4.00	*****	0.1240	4.70	0.37
SEP 18,87	SEP 17,87	416.0	70.7	3.80	3.82	*****	0.1800	7.70	0.57
SEP 19,87	SEP 18,87	54.0	20.3	*****	4.40	*****	0.0605	1.70	0.28
SEP 20,87	SEP 19,87	640.0	31.7	4.11	4.14	*****	0.0963	2.40	0.36
SEP 21,87	SEP 20,87	476.0	27.7	4.19	4.24	*****	0.0803	2.30	0.32
SEP 22,87	SEP 21,87	234.0	34.1	4.16	4.21	*****	0.0882	3.10	0.53
SEP 26,87	SEP 25,87	6.0	6.5	*****	5.25	*****	0.0232	0.85	0.08
SEP 28,87	SEP 27,87	270.0	28.0	4.18	4.30	*****	0.0746	2.80	0.45
SEP 30,87	SEP 29,87	852.0	36.6	4.16	4.23	*****	0.0866	5.00	0.54
OCT 1,87	SEP 30,87	397.0	9.9	4.67	4.87	*****	0.0429	0.75	<T 0.05
OCT 2,87	OCT 1,87	337.0	41.6	UG 6.48	UG 7.02	*****	0.0224	7.80	1.65
OCT 3,87	OCT 2,87	88.0	10.9	*****	UG 7.11	*****	0.0170	1.55	0.12
OCT 6,87	OCT 5,87	4.0	*****	*****	*****	*****	*****	*****	*****
OCT 8,87	OCT 7,87	570.0	10.7	D 4.60	4.67	*****	0.0391	0.45	0.32
OCT 10,87	OCT 9,87	112.0	56.5	4.18	4.31	*****	0.0895	6.85	2.25
OCT 13,87	OCT 12,87	14.0	D 17.0	*****	D 5.43	*****	D 0.0264	1.95	0.74
OCT 18,87	OCT 17,87	295.0	D 34.0	D 4.15	D 4.15	*****	D 0.0921	D 3.10	0.64
OCT 19,87	OCT 18,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 20,87	OCT 19,87	18.0	30.0	*****	4.28	*****	0.0804	2.90	0.79

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 9

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JUL 14,87	JUL 13,87	0.12	0.10	<T 0.025	0.035	0.035	0.175	0.0089
JUL 15,87	JUL 14,87	<T 0.04	<T 0.05	<T 0.005	<T 0.010	0.040	LG 0.030	0.0123
JUL 20,87	JUL 19,87	0.12	<T 0.05	0.025	<T 0.010	0.025	0.135	0.0234
JUL 30,87	JUL 29,87	1.94	0.30	0.450	0.095	0.120	0.315	0.0141
AUG 3,87	AUG 2,87	0.26	0.10	0.035	0.030	0.035	0.440	0.0955
AUG 8,87	AUG 7,87	1.58	0.30	0.195	0.065	0.060	D 1.050	0.0759
AUG 10,87	AUG 9,87	<T 0.04	<W 0.01	<T 0.005	<W 0.005	<W 0.005	<T 0.020	0.0288
AUG 15,87	AUG 14,87	D 1.34	D 0.74	D 0.205	D 0.105	D 0.300	D 1.150	B 0.3890
AUG 17,87	AUG 16,87	0.96	0.47	0.110	0.080	0.225	0.495	0.0398
AUG 18,87	AUG 17,87	0.40	0.13	D 0.055	0.040	0.060	0.585	0.0257
AUG 22,87	AUG 21,87	D 0.46	D 0.10	0.040	0.045	0.030	0.360	0.0490
AUG 26,87	AUG 25,87	!LA *****	!LA *****	!LA *****	!LA *****	!LA *****	!LA *****	!LA *****
AUG 27,87	AUG 26,87	*****	*****	*****	*****	*****	*****	*****
AUG 29,87	AUG 28,87	1.60	0.16	0.115	0.045	0.055	<W 0.005	0.0331
AUG 31,87	AUG 30,87	0.30	0.19	0.035	0.045	<T 0.015	0.480	0.0589
SEP 1,87	AUG 31,87	0.14	<W 0.01	<T 0.010	0.030	<T 0.025	0.070	0.0049
SEP 2,87	SEP 1,87	0.12	0.12	<T 0.015	0.070	0.115	LG 0.040	UG 0.0017
SEP 9,87	SEP 8,87	<W 0.02	0.08	<W 0.005	<W 0.005	<T 0.010	0.100	0.0525
SEP 10,87	SEP 9,87	0.10	!IS *****	<T 0.015	0.045	0.045	0.405	0.0708
SEP 12,87	SEP 11,87	0.24	0.18	<T 0.015	<T 0.025	<T 0.005	0.465	0.1862
SEP 14,87	SEP 13,87	0.30	0.25	0.030	0.045	D 0.050	0.625	0.0977
SEP 17,87	SEP 16,87	0.30	0.15	0.030	0.065	0.080	0.070	0.1000
SEP 18,87	SEP 17,87	0.42	0.12	0.035	0.040	0.035	0.450	0.1514
SEP 19,87	SEP 18,87	0.24	0.06	<T 0.020	0.035	0.050	0.070	0.0398
SEP 20,87	SEP 19,87	<T 0.06	<T 0.04	<W 0.005	<T 0.025	<T 0.020	0.125	0.0724
SEP 21,87	SEP 20,87	<T 0.06	<T 0.02	<W 0.005	0.025	<T 0.010	0.155	0.0575
SEP 22,87	SEP 21,87	0.22	0.09	0.025	0.075	0.050	0.430	0.0617
SEP 26,87	SEP 25,87	0.16	0.08	0.030	0.045	0.080	LG 0.035	0.0056
SEP 28,87	SEP 27,87	0.42	0.07	0.045	0.035	<T 0.025	0.330	0.0501
SEP 30,87	SEP 29,87	1.08	0.19	0.115	0.030	0.025	0.695	0.0589
OCT 1,87	SEP 30,87	<W 0.02	<T 0.02	<T 0.005	<W 0.005	<T 0.010	LG 0.040	0.0135
OCT 2,87	OCT 1,87	3.06	0.26	0.415	UG 0.290	0.190	1.550	UG 0.0001
OCT 3,87	OCT 2,87	D 1.04	0.20	0.075	0.040	0.040	0.380	UG 0.0001
OCT 6,87	OCT 5,87	*****	*****	*****	*****	*****	*****	*****
OCT 8,87	OCT 7,87	<T 0.02	<W 0.01	<W 0.005	<W 0.005	<W 0.005	LG 0.040	0.0214
OCT 10,87	OCT 9,87	3.04	0.62	0.285	0.230	0.185	1.000	0.0490
OCT 13,87	OCT 12,87	0.82	D 0.37	0.095	D 0.120	D 0.185	0.595	D 0.0037
OCT 18,87	OCT 17,87	D 0.44	0.11	D 0.035	<T 0.020	<T 0.025	D 0.435	D 0.0708
OCT 19,87	OCT 18,87	*****	*****	*****	*****	*****	*****	*****
OCT 20,87	OCT 19,87	0.42	0.17	0.045	0.060	0.080	!IS *****	0.0525

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
OCT 21,87	OCT 20,87	830 900	1430 1900	1	1.8	1	48184	2	1	90	
OCT 23,87	OCT 22,87	900 900	1715 500	1	11.4	1	48185	2	1	100	
OCT 25,87	OCT 24,87	900 900	30 300	1	18.0	1	48186	2	1	94	
OCT 27,87	OCT 26,87	900 900	****	1	0.3	1	48189	2	1	208	N
OCT 28,87	OCT 27,87	900 900	900 1630	1	8.4	1	48190	2	1	99	
OCT 29,87	OCT 28,87	900 900	700 900	1	****	2	48191	2	1	****	X
OCT 30,87	OCT 29,87	900 900	900 1000	1	0.5	2	48192	2	1	209	N
OCT 31,87	OCT 30,87	900 900	900 1130	1	0.3	2	48193	2	1	254	N
NOV 3,87	NOV 2,87	900 900	400 900	1	6.4	2	48194	2	1	107	
NOV 4,87	NOV 3,87	900 900	900 1330	1	2.4	2	48195	2	1	139	NC
NOV 5,87	NOV 4,87	900 900	1415 2300	1	8.6	2	48196	2	1	113	C
NOV 6,87	NOV 5,87	900 900	1130 1400	3	0.8	2	48197	2	1	167	NHCM
NOV 7,87	NOV 6,87	900 900	1330 2130	2	9.6	2	48198	2	1	94	
NOV 8,87	NOV 7,87	900 900	300 900	1	4.0	2	48199	2	1	109	
NOV 9,87	NOV 8,87	900 900	1600 200	1	10.8	2	48200	2	1	101	
NOV 12,87	NOV 11,87	900 900	730 900	2	1.0	2	48201	2	1	82	
NOV 18,87	NOV 17,87	900 900	1300 100	1	4.8	2	48204	2	1	137	N
NOV 19,87	NOV 18,87	900 900	1600 2000	3	0.5	2	48205	2	1	215	NM
NOV 20,87	NOV 19,87	900 900	1700 1900	3	2.3	2	48206	2	1	100	JH
NOV 24,87	NOV 23,87	900 900	1000 1030	1	0.2	2	48208	2	1	577	N
NOV 26,87	NOV 25,87	900 900	900 1230	2	35.2	2	48210	2	1	21	N
NOV 29,87	NOV 28,87	900 1000	100 1000	1	9.8	2	48211	2	1	96	
NOV 30,87	NOV 29,87	1000 900	1000 1830	1	6.8	2	48212	2	1	89	
DEC 1,87	NOV 30,87	900 910	1700 100	1	****	2	48213	2	1	****	X
DEC 2,87	DEC 1,87	910 900	2000 2330	2	0.2	2	48214	2	1	****	E N
DEC 8,87	DEC 7,87	900 900	600 900	1	0.6	2	48217	2	1	143	N
DEC 9,87	DEC 8,87	900 900	900 1300	1	5.4	2	48218	2	1	111	
DEC 10,87	DEC 9,87	900 900	930 1230	1	3.0	2	48220	2	1	122	N
DEC 11,87	DEC 10,87	900 900	1230 1400	1	****	2	48221	2	1	****	X
DEC 12,87	DEC 11,87	900 900	430 830	2	1.8	2	48222	2	1	111	
DEC 13,87	DEC 12,87	900 900	430 730	2	6.6	2	48223	2	1	78	HM
DEC 16,87	DEC 15,87	900 900	900 1500	2	24.4	2	48225	2	1	U 25	F
DEC 17,87	DEC 16,87	900 900	930 1130	2	0.2	2	48226	2	1	****	E N
DEC 19,87	DEC 18,87	900 900	2130 2230	2	2.4	2	48227	2	1	37	N
DEC 20,87	DEC 19,87	900 900	100 900	3	17.1	2	48228	2	1	57	
DEC 21,87	DEC 20,87	900 900	900 1400	1	4.0	2	48229	2	1	111	
DEC 22,87	DEC 21,87	900 900	920 1030	2	0.1	*	48230	2	1	****	E N
DEC 23,87	DEC 22,87	900 900	1030 1210	2	1.0	2	48231	2	1	56	
DEC 25,87	DEC 24,87	900 900	1030 1500	1	10.2	2	48233	2	1	99	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 11

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
OCT 21,87	OCT 20,87	104.0	83.0	3.69	3.77	*****	0.2290	6.80	1.88
OCT 23,87	OCT 22,87	736.0	24.0	4.25	4.33	*****	0.0746	1.60	0.75
OCT 25,87	OCT 24,87	1096.0	36.0	4.05	4.16	*****	0.1070	3.00	0.93
OCT 27,87	OCT 26,87	40.0	20.0	*****	4.36	*****	0.0734	2.10	0.43
OCT 28,87	OCT 27,87	537.0	30.0	4.12	4.21	*****	0.0971	3.30	0.43
OCT 29,87	OCT 28,87	3.0	*****	*****	*****	*****	*****	*****	*****
OCT 30,87	OCT 29,87	67.0	43.0	*****	4.36	*****	0.0788	4.05	2.43
OCT 31,87	OCT 30,87	49.0	D 83.0	*****	3.84	*****	0.1970	D 5.25	UG 3.57
NOV 3,87	NOV 2,87	440.0	45.0	4.02	4.11	*****	0.1100	3.45	0.66
NOV 4,87	NOV 3,87	214.0	10.0	4.35	4.44	*****	0.0604	2.40	0.51
NOV 5,87	NOV 4,87	627.0	D 4.0	4.63	4.80	*****	D 0.0361	D 1.55	0.30
NOV 6,87	NOV 5,87	86.0	LG 3.0	*****	5.04	*****	0.0256	1.05	LG 0.07
NOV 7,87	NOV 6,87	580.0	!LA *****	UG 5.11	!LA *****	*****	!LA *****	!LA *****	!LA *****
NOV 8,87	NOV 7,87	280.0	16.0	4.47	4.55	*****	0.0473	1.25	0.39
NOV 9,87	NOV 8,87	703.0	19.0	4.36	4.41	*****	0.0598	1.55	0.47
NOV 12,87	NOV 11,87	53.0	23.0	*****	4.43	*****	0.0576	1.55	0.85
NOV 18,87	NOV 17,87	424.0	27.0	4.19	4.31	*****	0.0835	2.20	0.55
NOV 19,87	NOV 18,87	69.0	8.0	*****	B 7.06	*****	0.0155	1.15	0.17
NOV 20,87	NOV 19,87	148.0	18.0	B 5.61	B 6.43	*****	D 0.0206	D 2.10	1.20
NOV 24,87	NOV 23,87	74.0	D 56.0	*****	4.22	*****	0.1180	D 7.25	2.00
NOV 26,87	NOV 25,87	474.0	5.0	4.92	4.95	*****	0.0238	LG 0.20	0.14
NOV 29,87	NOV 28,87	608.0	D 6.5	4.71	4.79	*****	0.0327	0.70	0.17
NOV 30,87	NOV 29,87	392.0	18.0	4.32	4.36	*****	0.0642	1.25	0.41
DEC 1,87	NOV 30,87	7.0	*****	*****	*****	*****	*****	*****	*****
DEC 2,87	DEC 1,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 8,87	DEC 7,87	55.0	28.0	*****	4.31	*****	0.0794	2.40	0.44
DEC 9,87	DEC 8,87	387.0	D 38.0	4.03	4.17	*****	D 0.1040	2.85	0.49
DEC 10,87	DEC 9,87	236.0	26.0	4.29	4.33	*****	0.0769	2.50	0.21
DEC 11,87	DEC 10,87	2.0	*****	*****	*****	*****	*****	*****	*****
DEC 12,87	DEC 11,87	129.0	43.0	4.06	4.15	*****	0.1110	2.00	1.27
DEC 13,87	DEC 12,87	334.0	8.5	4.82	4.97	*****	0.0297	0.85	0.23
DEC 16,87	DEC 15,87	393.0	20.0	4.34	4.38	*****	0.0700	0.85	0.57
DEC 17,87	DEC 16,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	58.0	47.0	*****	4.11	*****	0.1150	2.20	1.44
DEC 20,87	DEC 19,87	627.0	14.5	4.44	4.51	*****	0.0517	0.95	0.31
DEC 21,87	DEC 20,87	286.0	20.5	4.31	4.35	*****	0.0690	1.60	0.26
DEC 22,87	DEC 21,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 23,87	DEC 22,87	36.0	33.0	*****	4.20	*****	0.0931	1.30	1.21
DEC 25,87	DEC 24,87	648.0	18.0	4.38	4.42	*****	0.0651	1.15	0.31

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 12

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
OCT 21,87	OCT 20,87	0.58	0.36	0.070	0.050	0.035	0.595	0.1698
OCT 23,87	OCT 22,87	0.20	0.12	<T 0.025	<T 0.010	<T 0.010	0.250	0.0468
OCT 25,87	OCT 24,87	0.34	0.22	0.035	0.045	<T 0.025	0.430	0.0692
OCT 27,87	OCT 26,87	0.24	0.26	<T 0.020	0.025	0.040	0.125	0.0437
OCT 28,87	OCT 27,87	0.16	0.19	<T 0.010	<T 0.015	<T 0.015	0.305	0.0617
OCT 29,87	OCT 28,87	*****	*****	*****	*****	*****	*****	*****
OCT 30,87	OCT 29,87	2.24	0.73	0.325	D 0.210	D 0.140	1.100	0.0437
OCT 31,87	OCT 30,87	1.86	0.56	0.260	0.160	0.130	1.400	0.1445
NOV 3,87	NOV 2,87	D 0.10	0.19	<T 0.015	<T 0.020	0.045	0.365	0.0776
NOV 4,87	NOV 3,87	0.20	0.22	<T 0.020	0.030	0.050	0.465	0.0363
NOV 5,87	NOV 4,87	<T 0.10	0.07	<T 0.010	<T 0.020	0.025	0.340	0.0158
NOV 6,87	NOV 5,87	0.14	<T 0.01	<T 0.005	<T 0.010	0.025	<T 0.005	0.0091
NOV 7,87	NOV 6,87	!LA *****	!LA *****	!LA *****	!LA *****	!LA *****	!LA *****	!LA *****
NOV 8,87	NOV 7,87	<T 0.04	<T 0.01	<T 0.010	<T 0.015	<T 0.020	0.200	0.0282
NOV 9,87	NOV 8,87	<W 0.02	0.11	<T 0.010	<T 0.015	<T 0.010	0.285	0.0389
NOV 12,87	NOV 11,87	0.30	0.15	0.030	0.040	0.080	0.430	0.0372
NOV 18,87	NOV 17,87	0.12	0.29	0.030	<T 0.010	0.150	0.240	0.0490
NOV 19,87	NOV 18,87	D 1.08	0.06	<T 0.020	<T 0.010	<T 0.020	0.215	B 0.0001
NOV 20,87	NOV 19,87	D 1.38	D 0.26	D 0.130	0.040	D 0.045	D 0.830	B 0.0004
NOV 24,87	NOV 23,87	2.24	D 1.13	0.250	0.135	B 0.670	D 1.500	0.0603
NOV 26,87	NOV 25,87	<T 0.02	0.05	<W 0.005	<T 0.010	<T 0.025	<W 0.005	0.0112
NOV 29,87	NOV 28,87	<T 0.08	0.07	<T 0.010	<T 0.020	0.040	0.080	0.0162
NOV 30,87	NOV 29,87	<T 0.06	0.05	<T 0.005	<T 0.005	<T 0.005	0.050	0.0437
DEC 1,87	NOV 30,87	*****	*****	*****	*****	*****	*****	*****
DEC 2,87	DEC 1,87	*****	*****	*****	*****	*****	*****	*****
DEC 8,87	DEC 7,87	0.24	0.22	<T 0.020	0.075	0.100	0.060	0.0490
DEC 9,87	DEC 8,87	0.12	0.46	0.030	<T 0.015	0.210	D 0.075	0.0676
DEC 10,87	DEC 9,87	<T 0.06	0.16	<T 0.010	<T 0.010	0.055	0.075	0.0468
DEC 11,87	DEC 10,87	*****	*****	*****	*****	*****	*****	*****
DEC 12,87	DEC 11,87	0.14	0.18	<T 0.010	<T 0.020	0.055	0.490	0.0708
DEC 13,87	DEC 12,87	<T 0.02	D 0.06	<T 0.005	<T 0.015	0.030	0.170	0.0107
DEC 16,87	DEC 15,87	<T 0.10	0.15	<T 0.010	D 0.030	0.055	0.085	0.0417
DEC 17,87	DEC 16,87	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	0.94	1.01	0.145	0.025	0.350	0.130	0.0776
DEC 20,87	DEC 19,87	<T 0.06	0.08	<T 0.005	<T 0.005	<T 0.020	0.060	0.0309
DEC 21,87	DEC 20,87	<T 0.04	0.11	<W 0.005	<T 0.010	<T 0.020	0.100	0.0447
DEC 22,87	DEC 21,87	*****	*****	*****	*****	*****	*****	*****
DEC 23,87	DEC 22,87	0.12	0.25	<T 0.010	<T 0.015	0.045	0.490	0.0631
DEC 25,87	DEC 24,87	<T 0.04	0.08	<W 0.005	<T 0.005	<T 0.015	0.125	0.0380

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAVEN LAKE/DAILY/AEROCHEM

#05

PAGE : 12

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
OCT 21,87	OCT 20,87	0.58	0.36	0.070	0.050	0.035	0.595	0.1698
OCT 23,87	OCT 22,87	0.20	0.12	<T 0.025	<T 0.010	<T 0.010	0.250	0.0468
OCT 25,87	OCT 24,87	0.34	0.22	0.035	0.045	<T 0.025	0.430	0.0692
OCT 27,87	OCT 26,87	0.24	0.26	<T 0.020	0.025	0.040	0.125	0.0437
OCT 28,87	OCT 27,87	0.16	0.19	<T 0.010	<T 0.015	<T 0.015	0.305	0.0617
OCT 29,87	OCT 28,87	*****	*****	*****	*****	*****	*****	*****
OCT 30,87	OCT 29,87	2.24	0.73	0.325	D 0.210	D 0.140	1.100	0.0437
OCT 31,87	OCT 30,87	1.86	0.56	0.260	0.160	0.130	1.400	0.1445
NOV 3,87	NOV 2,87	D 0.10	0.19	<T 0.015	<T 0.020	0.045	0.365	0.0776
NOV 4,87	NOV 3,87	0.20	0.22	<T 0.020	0.030	0.050	0.465	0.0363
NOV 5,87	NOV 4,87	<T 0.10	0.07	<T 0.010	<T 0.020	0.025	0.340	0.0158
NOV 6,87	NOV 5,87	0.14	<T 0.01	<T 0.005	<T 0.010	0.025	<T 0.005	0.0091
NOV 7,87	NOV 6,87	!LA *****	!LA *****	!LA *****	!LA *****	!LA *****	!LA *****	!LA *****
NOV 8,87	NOV 7,87	<T 0.04	<T 0.01	<T 0.010	<T 0.015	<T 0.020	0.200	0.0282
NOV 9,87	NOV 8,87	<W 0.02	0.11	<T 0.010	<T 0.015	<T 0.010	0.285	0.0389
NOV 12,87	NOV 11,87	0.30	0.15	0.030	0.040	0.080	0.430	0.0372
NOV 18,87	NOV 17,87	0.12	0.29	0.030	<T 0.010	0.150	0.240	0.0490
NOV 19,87	NOV 18,87	D 1.08	0.06	<T 0.020	<T 0.010	<T 0.020	0.215	B 0.0001
NOV 20,87	NOV 19,87	D 1.38	D 0.26	D 0.130	0.040	D 0.045	D 0.830	B 0.0004
NOV 24,87	NOV 23,87	2.24	D 1.13	0.250	0.135	B 0.670	D 1.500	0.0603
NOV 26,87	NOV 25,87	<T 0.02	0.05	<W 0.005	<T 0.010	<T 0.025	<W 0.005	0.0112
NOV 29,87	NOV 28,87	<T 0.08	0.07	<T 0.010	<T 0.020	0.040	0.080	0.0162
NOV 30,87	NOV 29,87	<T 0.06	0.05	<T 0.005	<T 0.005	<T 0.005	0.050	0.0437
DEC 1,87	NOV 30,87	*****	*****	*****	*****	*****	*****	*****
DEC 2,87	DEC 1,87	*****	*****	*****	*****	*****	*****	*****
DEC 8,87	DEC 7,87	0.24	0.22	<T 0.020	0.075	0.100	0.060	0.0490
DEC 9,87	DEC 8,87	0.12	0.46	0.030	<T 0.015	0.210	D 0.075	0.0676
DEC 10,87	DEC 9,87	<T 0.06	0.16	<T 0.010	<T 0.010	0.055	0.075	0.0468
DEC 11,87	DEC 10,87	*****	*****	*****	*****	*****	*****	*****
DEC 12,87	DEC 11,87	0.14	0.18	<T 0.010	<T 0.020	0.055	0.490	0.0708
DEC 13,87	DEC 12,87	<T 0.02	D 0.06	<T 0.005	<T 0.015	0.030	0.170	0.0107
DEC 16,87	DEC 15,87	<T 0.10	0.15	<T 0.010	D 0.030	0.055	0.085	0.0417
DEC 17,87	DEC 16,87	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	0.94	1.01	0.145	0.025	0.350	0.130	0.0776
DEC 20,87	DEC 19,87	<T 0.06	0.08	<T 0.005	<T 0.005	<T 0.020	0.060	0.0309
DEC 21,87	DEC 20,87	<T 0.04	0.11	<W 0.005	<T 0.010	<T 0.020	0.100	0.0447
DEC 22,87	DEC 21,87	*****	*****	*****	*****	*****	*****	*****
DEC 23,87	DEC 22,87	0.12	0.25	<T 0.010	<T 0.015	0.045	0.490	0.0631
DEC 25,87	DEC 24,87	<T 0.04	0.08	<W 0.005	<T 0.005	<T 0.015	0.125	0.0380

PART IV

NORTHWESTERN REGION

DAILY PRECIPITATION CHEMISTRY LISTINGS



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DAWSON/DAILY/AEROCHEM./6131

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
AUG 15,87	AUG 14,87	753.0	13.5	*****	4.55	*****	UG 0.0525	1.55	0.23
AUG 17,87	AUG 16,87	499.0	4.0	*****	5.51	*****	0.0206	<T 0.15	0.05
AUG 18,87	AUG 17,87	182.0	2.0	*****	5.91	*****	0.0172	<T 0.10	0.02
AUG 20,87	AUG 19,87	206.0	24.0	*****	4.39	*****	UG 0.0675	2.95	0.57
AUG 21,87	AUG 20,87	191.0	11.0	*****	5.44	*****	0.0241	2.15	0.33
AUG 26,87	AUG 25,87	248.0	8.0	*****	4.72	*****	0.0379	0.95	0.06
SEP 2,87	SEP 1,87	370.0	5.5	*****	5.35	*****	0.0231	0.50	0.12
SEP 4,87	SEP 3,87	160.0	21.0	*****	5.95	*****	0.0245	2.85	0.95
SEP 5,87	SEP 4,87	1552.0	9.0	*****	4.87	*****	D 0.0347	1.35	0.22
SEP 7,87	SEP 6,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 8,87	SEP 7,87	715.0	6.5	*****	5.07	*****	0.0260	0.80	0.12
SEP 10,87	SEP 9,87	129.0	10.0	*****	4.89	*****	0.0325	1.20	0.25
SEP 11,87	SEP 10,87	538.0	11.0	*****	5.50	*****	0.0242	1.50	0.41
SEP 13,87	SEP 12,87	385.0	2.5	*****	5.29	*****	0.0223	0.20	<T 0.03
SEP 14,87	SEP 13,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 19,87	SEP 18,87	802.0	17.5	*****	4.40	*****	UG 0.0607	1.90	0.11
SEP 20,87	SEP 19,87	40.0	7.0	*****	4.88	*****	0.0314	0.70	0.08
SEP 29,87	SEP 28,87	134.0	8.0	*****	6.67	*****	0.0153	1.20	0.34
OCT 2,87	OCT 1,87	258.0	6.0	*****	6.13	*****	0.0157	1.20	0.16
OCT 6,87	OCT 5,87	165.0	1.0	*****	5.73	*****	0.0162	0.30	<T 0.04
OCT 9,87	OCT 8,87	542.0	13.0	*****	7.20	*****	0.0153	1.65	0.44
OCT 16,87	OCT 15,87	810.0	12.0	*****	4.54	*****	0.0480	1.60	0.17
OCT 20,87	OCT 19,87	221.0	7.5	*****	5.14	*****	0.0240	0.65	0.24
OCT 26,87	OCT 25,87	197.0	9.0	*****	4.90	*****	0.0312	0.95	0.24
OCT 27,87	OCT 26,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 4,87	NOV 3,87	54.0	12.0	*****	4.79	*****	0.0360	1.80	0.19
NOV 16,87	NOV 15,87	419.0	26.5	*****	4.31	*****	0.0785	2.55	0.58
NOV 19,87	NOV 18,87	466.0	7.5	*****	5.11	*****	0.0402	0.90	0.26
NOV 23,87	NOV 22,87	115.0	13.0	*****	4.74	*****	0.0405	0.95	0.49
NOV 29,87	NOV 28,87	142.0	19.0	*****	4.41	*****	0.0632	1.80	0.24
DEC 12,87	DEC 11,87	124.0	9.5	*****	4.69	*****	0.0406	0.65	0.31
DEC 13,87	DEC 12,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 14,87	DEC 13,87	16.0	8.0	*****	4.82	*****	0.0309	0.30	0.25
DEC 15,87	DEC 14,87	28.0	16.0	*****	4.46	*****	0.0546	0.95	0.33
DEC 16,87	DEC 15,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	271.0	14.5	*****	4.59	*****	0.0453	0.55	0.44



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : DAWSON/DAILY/AEROCHEM./6131

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
AUG 15,87	AUG 14,87	0.18	0.10	0.025	<T 0.015	0.025	0.215	0.0282
AUG 17,87	AUG 16,87	<W 0.02	<W 0.01	<T 0.010	<T 0.020	<T 0.020	<T 0.020	0.0031
AUG 18,87	AUG 17,87	<W 0.02	0.06	<T 0.005	0.055	0.040	<T 0.010	0.0012
AUG 20,87	AUG 19,87	1.02	0.16	0.085	0.030	0.050	0.425	0.0407
AUG 21,87	AUG 20,87	0.38	0.06	0.110	0.075	0.045	0.485	0.0036
AUG 26,87	AUG 25,87	<W 0.02	<W 0.01	<T 0.010	<T 0.010	<T 0.015	0.035	0.0191
SEP 2,87	SEP 1,87	<W 0.02	<T 0.02	<T 0.010	<T 0.015	<T 0.015	0.190	0.0045
SEP 4,87	SEP 3,87	1.28	0.44	0.120	0.180	0.110	0.900	0.0011
SEP 5,87	SEP 4,87	D 0.34	<T 0.05	<T 0.020	<T 0.010	<T 0.015	0.325	0.0135
SEP 7,87	SEP 6,87	*****	*****	*****	*****	*****	*****	*****
SEP 8,87	SEP 7,87	<T 0.06	<W 0.01	<T 0.020	<T 0.020	<T 0.005	0.150	0.0085
SEP 10,87	SEP 9,87	0.18	<T 0.03	0.030	0.030	<T 0.015	0.290	0.0129
SEP 11,87	SEP 10,87	0.30	<T 0.02	0.075	0.045	0.025	0.535	0.0032
SEP 13,87	SEP 12,87	<T 0.02	<W 0.01	<T 0.010	<T 0.015	<T 0.010	<T 0.010	0.0051
SEP 14,87	SEP 13,87	*****	*****	*****	*****	*****	*****	*****
SEP 19,87	SEP 18,87	0.14	<T 0.03	<T 0.015	<T 0.020	<T 0.025	<T 0.015	0.0398
SEP 20,87	SEP 19,87	ICR *****	0.12	<T 0.010	0.030	0.025	<W 0.005	0.0132
SEP 29,87	SEP 28,87	0.94	0.06	0.180	0.110	0.045	0.105	0.0002
OCT 2,87	OCT 1,87	0.30	0.06	0.065	0.030	0.210	0.180	0.0007
OCT 6,87	OCT 5,87	0.10	<T 0.03	<T 0.020	<T 0.010	<T 0.015	0.035	0.0019
OCT 9,87	OCT 8,87	1.46	0.08	0.245	0.080	0.045	0.495	UG 0.0001
OCT 16,87	OCT 15,87	0.18	<T 0.04	0.020	<T 0.010	<T 0.010	0.115	0.0288
OCT 20,87	OCT 19,87	<T 0.10	0.08	<T 0.020	<T 0.010	0.065	0.175	0.0072
OCT 26,87	OCT 25,87	0.18	0.06	<T 0.020	<T 0.015	0.045	0.140	0.0126
OCT 27,87	OCT 26,87	*****	*****	*****	*****	*****	*****	*****
NOV 4,87	NOV 3,87	0.20	0.08	0.030	0.060	0.075	0.245	0.0162
NOV 16,87	NOV 15,87	0.18	0.08	<T 0.020	<T 0.020	0.035	0.385	0.0490
NOV 19,87	NOV 18,87	<T 0.05	<T 0.04	<W 0.005	<W 0.005	<T 0.020	0.315	0.0078
NOV 23,87	NOV 22,87	0.22	0.10	0.035	<T 0.020	0.045	0.300	0.0182
NOV 29,87	NOV 28,87	0.10	0.07	<T 0.005	<W 0.005	0.040	0.060	0.0389
DEC 12,87	DEC 11,87	<T 0.04	0.05	<T 0.005	<T 0.010	0.030	0.105	0.0204
DEC 13,87	DEC 12,87	*****	*****	*****	*****	*****	*****	*****
DEC 14,87	DEC 13,87	!IS *****	0.12	!IS *****	!IS *****	!IS *****	<T 0.015	0.0151
DEC 15,87	DEC 14,87	!IS *****	0.07	!IS *****	!IS *****	!IS *****	<T 0.010	0.0347
DEC 16,87	DEC 15,87	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	<T 0.04	0.07	<T 0.005	<T 0.005	0.035	0.110	0.0257

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 1,87	DEC 31,86	800 800	815 1900	3	3.2	2	32394	2	1	69	
JAN 2,87	JAN 1,87	800 800	830 930	2	0.1	2	32395	2	1	****	EK
JAN 7,87	JAN 5,87	800 800	500 1100	2	0.7	2	32396	2	1	75	Z
JAN 10,87	JAN 9,87	1000 1000	800 1000	2	0.1	2	32397	2	1	31	E N
JAN 11,87	JAN 10,87	1000 800	1000 1200	2	0.1	2	32398	2	1	****	EK
JAN 15,87	JAN 14,87	800 800	2200 100	2	0.1	2	32399	2	1	****	EK
JAN 16,87	JAN 15,87	800 800	****	2	0.1	2	32400	2	1	****	EK
JAN 17,87	JAN 16,87	800 1200	2300	2	0.1	2	32401	2	1	****	EK
JAN 18,87	JAN 17,87	1200 1200	1700 2200	2	0.1	2	32402	2	1	46	E N
JAN 20,87	JAN 19,87	800 800	900 2000	2	3.4	2	32403	2	1	77	Q
JAN 22,87	JAN 21,87	800 800	900 2200	2	4.5	2	32404	2	1	45	C N
JAN 27,87	JAN 26,87	800 800	****	2	0.1	2	32405	2	1	****	EK
JAN 31,87	JAN 29,87	800 800	900 1200	2	5.5	2	32408	2	1	75	
FEB 3,87	FEB 2,87	800 800	900 1800	2	7.8	2	32410	2	1	80	Y2 HCM
FEB 4,87	FEB 3,87	800 800	1100 2000	2	0.3	2	32411	2	1	10	E N
FEB 7,87	FEB 6,87	800 800	1800 2100	3	0.2	2	32412	2	1	****	KE
FEB 15,87	FEB 13,87	800 800	1500 2300	2	1.5	2	32414	2	1	72	HY2
FEB 23,87	FEB 21,87	730 730	1200 2000	2	3.5	2	32419	2	1	75	HY2
FEB 24,87	FEB 23,87	730 730	730 1300	2	0.5	2	32420	2	1	149	N
MAR 2,87	FEB 28,87	800 800	200 1700	2	12.2	2	32421	2	1	47	NHCHY2
MAR 12,87	MAR 11,87	800 800	2000 2300	2	0.1	2	32424	2	1	140	NHC
MAR 14,87	MAR 13,87	800 800	800 2100	2	0.2	2	32425	2	1	85	
MAR 23,87	MAR 22,87	800 900	100 830	1	1.8	2	32426	2	1	136	C N
MAR 24,87	MAR 23,87	900 800	2300 700	1	0.1	2	32427	2	1	405	N
MAR 27,87	MAR 26,87	800 800	830 1030	2	0.2	2	32428	2	1	249	N
MAR 28,87	MAR 27,87	800 900	1100 830	2	0.1	2	32429	2	1	218	N
APR 21,87	APR 20,87	730 730	1530 1730	1	0.1	2	32432	2	1	514	C N
APR 25,87	APR 24,87	500 800	600 700	1	4.2	1	32433	2	1	95	D
APR 27,87	APR 26,87	730 730	1915 2000	1	1.8	1	32434	2	1	97	Q
MAY 10,87	MAY 9,87	730 730	1500 1520	1	0.8	1	32436	2	1	54	CQ M
MAY 13,87	MAY 12,87	730 730	1645 1700	1	0.1	1	32437	2	1	****	EK
MAY 16,87	MAY 13,87	730 800	1400 1500	1	2.6	1	32439	2	1	231	NZ
MAY 17,87	MAY 16,87	800 830	2030 2130	1	29.5	1	32440	2	1	****	IFKE
MAY 18,87	MAY 17,87	830 805	1500 2200	1	22.2	1	32441	2	1	****	IFKE
MAY 22,87	MAY 21,87	800 800	****	3	41.0	1	32442	2	1	U 32	FEG
MAY 23,87	MAY 22,87	800 730	730 100	1	0.1	1	32443	2	1	****	EK
MAY 26,87	MAY 25,87	800 800	2100 700	1	3.6	1	32444	2	1	87	
MAY 27,87	MAY 26,87	800 730	1100 1130	1	0.8	1	32445	2	1	66	
MAY 31,87	MAY 30,87	800 800	1900 2100	1	1.0	1	32446	2	1	29	C N
JUN 2,87	JUN 1,87	730 730	1625 1730	1	20.2	1	32447	2	1	101	C

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 1,87	DEC 31,86	142.0	9.7	*****	5.34	*****	0.0243	1.35	0.46
JAN 2,87	JAN 1,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 7,87	JAN 5,87	34.0	40.8	*****	4.32	*****	0.0800	5.45	UG 1.62
JAN 10,87	JAN 9,87	2.0	*****	*****	*****	*****	*****	*****	*****
JAN 11,87	JAN 10,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 15,87	JAN 14,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 16,87	JAN 15,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 17,87	JAN 16,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 18,87	JAN 17,87	3.0	*****	*****	*****	*****	*****	*****	*****
JAN 20,87	JAN 19,87	168.0	6.4	*****	4.82	*****	D 0.0254	0.30	0.17
JAN 22,87	JAN 21,87	132.0	5.9	*****	4.89	*****	0.0241	<T 0.20	0.17
JAN 27,87	JAN 26,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 31,87	JAN 29,87	267.0	9.4	*****	4.82	*****	0.0297	0.70	0.26
FEB 3,87	FEB 2,87	402.0	4.2	*****	5.58	*****	0.0170	0.50	0.08
FEB 4,87	FEB 3,87	2.0	*****	*****	*****	*****	*****	*****	*****
FEB 7,87	FEB 6,87	*****	*****	*****	*****	*****	*****	*****	*****
FEB 15,87	FEB 13,87	70.0	21.9	*****	4.89	*****	0.0362	3.75	0.58
FEB 23,87	FEB 21,87	170.0	31.3	*****	4.31	*****	0.0685	3.15	1.14
FEB 24,87	FEB 23,87	48.0	UG 72.3	*****	LG 3.78	*****	UG 0.1710	1.65	UG 1.93
MAR 2,87	FEB 28,87	374.0	3.7	*****	5.39	*****	0.0169	0.30	<T 0.04
MAR 12,87	MAR 11,87	9.0	5.2	*****	5.57	*****	0.0175	<W 0.05	0.18
MAR 14,87	MAR 13,87	11.0	9.4	*****	4.81	*****	0.0308	0.70	0.22
MAR 23,87	MAR 22,87	157.0	30.8	*****	4.15	*****	0.0844	3.35	0.32
MAR 24,87	MAR 23,87	26.0	UG 77.3	*****	LG 3.76	*****	UG 0.1970	UG 8.35	1.09
MAR 27,87	MAR 26,87	32.0	UG 95.0	*****	LG 3.67	*****	UG 0.2520	UG 9.80	UG 1.23
MAR 28,87	MAR 27,87	14.0	12.0	*****	4.64	*****	0.0388	1.05	0.15
APR 21,87	APR 20,87	33.0	14.6	*****	UG 6.87	*****	0.0167	1.70	0.40
APR 25,87	APR 24,87	258.0	21.9	*****	UG 6.70	*****	0.0208	3.55	0.75
APR 27,87	APR 26,87	112.0	20.9	*****	UG 7.18	*****	0.0174	1.95	0.52
MAY 10,87	MAY 9,87	28.0	UG 48.0	*****	UG 7.52	*****	0.0181	3.50	1.10
MAY 13,87	MAY 12,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 16,87	MAY 13,87	386.0	12.8	*****	4.97	*****	0.0290	1.85	0.40
MAY 17,87	MAY 16,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 18,87	MAY 17,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 22,87	MAY 21,87	842.0	*****	*****	*****	*****	*****	*****	*****
MAY 23,87	MAY 22,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 26,87	MAY 25,87	203.0	22.5	*****	4.27	*****	UG 0.0635	2.15	0.40
MAY 27,87	MAY 26,87	34.0	26.6	*****	!IS *****	*****	!IS *****	2.45	0.55
MAY 31,87	MAY 30,87	19.0	10.7	*****	!IS *****	*****	!IS *****	1.15	0.35
JUN 2,87	JUN 1,87	1313.0	8.1	*****	5.47	*****	0.0202	0.95	0.20

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 1,87	DEC 31,86	0.34	0.06	0.040	<T 0.025	0.040	0.525	0.0046
JAN 2,87	JAN 1,87	*****	*****	*****	*****	*****	*****	*****
JAN 7,87	JAN 5,87	0.36	0.15	0.030	0.030	0.065	UG 2.350	0.0479
JAN 10,87	JAN 9,87	*****	*****	*****	*****	*****	*****	*****
JAN 11,87	JAN 10,87	*****	*****	*****	*****	*****	*****	*****
JAN 15,87	JAN 14,87	*****	*****	*****	*****	*****	*****	*****
JAN 16,87	JAN 15,87	*****	*****	*****	*****	*****	*****	*****
JAN 17,87	JAN 16,87	*****	*****	*****	*****	*****	*****	*****
JAN 18,87	JAN 17,87	*****	*****	*****	*****	*****	*****	*****
JAN 20,87	JAN 19,87	<T 0.02	<T 0.04	<T 0.005	<T 0.005	<T 0.010	0.035	0.0151
JAN 22,87	JAN 21,87	<T 0.02	0.06	<T 0.005	<T 0.005	<T 0.015	<T 0.025	0.0129
JAN 27,87	JAN 26,87	*****	*****	*****	*****	*****	*****	*****
JAN 31,87	JAN 29,87	0.26	0.12	0.060	<T 0.010	0.045	0.070	0.0151
FEB 3,87	FEB 2,87	<T 0.02	<W 0.01	<T 0.005	<T 0.005	<W 0.005	0.120	0.0026
FEB 4,87	FEB 3,87	*****	*****	*****	*****	*****	*****	*****
FEB 7,87	FEB 6,87	*****	*****	*****	*****	*****	*****	*****
FEB 15,87	FEB 13,87	0.40	0.18	0.080	<T 0.025	0.060	1.250	0.0129
FEB 23,87	FEB 21,87	0.36	0.15	0.055	<T 0.015	<T 0.020	1.350	0.0490
FEB 24,87	FEB 23,87	0.18	0.39	0.035	<T 0.010	0.060	0.230	LG 0.1660
MAR 2,87	FEB 28,87	<W 0.02	<W 0.01	<W 0.005	<W 0.005	<T 0.005	<W 0.005	0.0041
MAR 12,87	MAR 11,87	0.14	0.10	<T 0.020	<T 0.020	0.025	<T 0.015	0.0027
MAR 14,87	MAR 13,87	0.14	0.12	<T 0.020	<T 0.010	0.025	0.035	0.0155
MAR 23,87	MAR 22,87	0.20	0.13	0.035	<T 0.020	0.045	0.230	0.0708
MAR 24,87	MAR 23,87	0.64	0.40	0.100	0.055	0.190	0.710	LG 0.1738
MAR 27,87	MAR 26,87	0.64	UG 0.54	0.105	0.065	0.230	0.730	LG 0.2138
MAR 28,87	MAR 27,87	<T 0.08	0.09	<T 0.010	0.025	0.035	<W 0.005	0.0229
APR 21,87	APR 20,87	0.60	0.18	0.115	UG 0.200	0.120	0.690	UG 0.0001
APR 25,87	APR 24,87	0.16	0.09	0.030	0.030	<T 0.015	2.100	UG 0.0002
APR 27,87	APR 26,87	0.82	0.17	0.190	UG 0.295	0.090	1.450	UG 0.0001
MAY 10,87	MAY 9,87	2.12	0.29	0.510	U 2.580	0.205	UG 2.900	UG 0.0000
MAY 13,87	MAY 12,87	*****	*****	*****	*****	*****	*****	*****
MAY 16,87	MAY 13,87	0.16	<T 0.05	<T 0.020	0.110	<T 0.005	0.620	0.0107
MAY 17,87	MAY 16,87	*****	*****	*****	*****	*****	*****	*****
MAY 18,87	MAY 17,87	*****	*****	*****	*****	*****	*****	*****
MAY 22,87	MAY 21,87	*****	*****	*****	*****	*****	*****	*****
MAY 23,87	MAY 22,87	*****	*****	*****	*****	*****	*****	*****
MAY 26,87	MAY 25,87	<T 0.08	0.10	<T 0.010	0.045	<W 0.005	0.280	0.0537
MAY 27,87	MAY 26,87	!IS *****	0.15	!IS *****	!IS *****	!IS *****	0.425	!IS *****
MAY 31,87	MAY 30,87	0.22	0.10	0.060	0.100	0.060	0.205	!IS *****
JUN 2,87	JUN 1,87	<T 0.08	<T 0.05	<T 0.010	0.035	<T 0.010	0.375	0.0034

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JUN 3,87	JUN 2,87	730 730	1630 1730	1	1.0	1	32448	2	1	U 63	EG
JUN 4,87	JUN 3,87	730 800	900 1000	1	0.6	1	32449	2	1	U 15	EG
JUN 5,87	JUN 4,87	800 800	930 1200	1	1.2	1	32450	2	1	35	N
JUN 7,87	JUN 6,87	800 800	1200 1315	1	12.0	1	32451	2	1	97	
JUN 11,87	JUN 10,87	730 730	1630 1930	1	6.0	1	32452	2	1	88	
JUN 23,87	JUN 22,87	730 730	1745 1800	1	5.8	1	32454	2	1	97	
JUN 26,87	JUN 25,87	730 800	1530 1550	1	2.0	1	32455	2	1	70	A
JUN 27,87	JUN 26,87	800 800	1245 1500	1	4.8	1	32456	2	1	94	
JUL 2,87	JUL 1,87	800 800	600 630	1	5.0	1	32457	2	1	72	Q CM
JUL 3,87	JUL 2,87	800 800	1400 1420	1	1.8	1	32458	2	1	67	H
JUL 6,87	JUL 5,87	800 800	****	1	8.8	1	32459	2	1	99	C
JUL 8,87	JUL 7,87	800 730	2100 2130	1	0.1	1	32460	2	1	****	E N
JUL 11,87	JUL 10,87	730 830	300 400	1	9.6	1	32461	2	1	58	
JUL 12,87	JUL 11,87	830 830	400 600	1	13.6	1	32462	2	1	61	
JUL 13,87	JUL 12,87	830 700	****	1	0.8	1	32463	2	1	23	NHCM
JUL 15,87	JUL 13,87	700 800	230 630	1	14.4	1	32464	2	1	56	CMY2
JUL 16,87	JUL 15,87	800 800	200 400	1	3.0	1	32465	2	1	44	N
JUL 17,87	JUL 16,87	800 800	****	1	0.6	1	32466	2	1	7	E N
JUL 18,87	JUL 17,87	800 800	1630 1700	1	14.6	1	32467	2	1	55	
JUL 19,87	JUL 18,87	800 800	2130 2230	1	16.8	1	32468	2	1	67	
JUL 20,87	JUL 19,87	800 730	1300 1500	1	2.0	1	32469	2	1	39	N
JUL 22,87	JUL 21,87	730 730	200 600	1	10.0	1	32470	2	1	20	N
JUL 23,87	JUL 22,87	730 730	300 600	1	62.0	1	32471	2	1	60	
JUL 24,87	JUL 23,87	730 800	****	1	9.0	1	32472	2	1	47	NC
AUG 1,87	JUL 31,87	800 830	300 600	1	69.2	1	32473	2	1	58	
AUG 2,87	AUG 1,87	830 830	900 1100	1	3.0	1	32474	2	1	50	C
AUG 3,87	AUG 2,87	830 800	245 300	1	7.2	1	32475	2	1	38	N
AUG 10,87	AUG 9,87	700 700	1000 1100	1	5.2	1	32476	2	1	37	NH
AUG 12,87	AUG 11,87	700 800	1230 100	1	5.0	1	32477	2	1	60	
AUG 13,87	AUG 12,87	800 800	1000 1200	1	13.6	1	32478	2	1	49	NH
AUG 15,87	AUG 14,87	800 800	2300 400	1	7.0	1	32479	2	1	56	
AUG 16,87	AUG 15,87	800 800	****	1	2.8	1	32480	2	1	76	
AUG 17,87	AUG 16,87	800 730	1400 1600	1	1.4	1	32481	2	1	89	C
AUG 18,87	AUG 17,87	730 730	630 730	1	2.0	1	32482	2	1	50	
AUG 19,87	AUG 18,87	800 730	800 830	1	7.6	1	32485	2	1	60	
AUG 20,87	AUG 19,87	730 730	500 530	1	3.4	1	32486	2	1	90	
AUG 21,87	AUG 20,87	730 730	500 600	1	1.2	1	32487	2	1	65	H
AUG 22,87	AUG 21,87	730 800	1200 1300	1	3.4	1	32488	2	1	100	
AUG 23,87	AUG 22,87	800 800	1800 1900	1	24.0	4	32489	2	1	9	NH
AUG 26,87	AUG 25,87	730 730	1800 730	1	6.4	1	32490	2	1	87	HC

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JUN 3,87	JUN 2,87	41.0	*****	*****	*****	*****	*****	*****	*****
JUN 4,87	JUN 3,87	6.0	*****	*****	*****	*****	*****	*****	*****
JUN 5,87	JUN 4,87	27.0	14.8	*****	5.03	*****	0.0208	2.60	0.40
JUN 7,87	JUN 6,87	751.0	10.7	*****	6.73	*****	0.0175	1.20	0.35
JUN 11,87	JUN 10,87	341.0	13.3	*****	4.59	*****	0.0368	1.60	0.25
JUN 23,87	JUN 22,87	363.0	36.0	UG	4.18	*****	0.1000	4.90	0.58
JUN 26,87	JUN 25,87	91.0	14.5	*****	4.79	*****	0.0385	1.55	0.37
JUN 27,87	JUN 26,87	291.0	3.0	*****	5.38	*****	0.0186	<T 0.15	<T 0.03
JUL 2,87	JUL 1,87	233.0	6.5	*****	5.33	*****	0.0221	0.60	0.26
JUL 3,87	JUL 2,87	78.0	6.0	*****	5.13	*****	0.0245	0.30	0.14
JUL 6,87	JUL 5,87	559.0	5.0	*****	5.26	*****	0.0218	0.50	0.07
JUL 8,87	JUL 7,87	*****	*****	*****	*****	*****	*****	*****	*****
JUL 11,87	JUL 10,87	359.0	9.5	*****	5.22	*****	0.0252	1.00	0.35
JUL 12,87	JUL 11,87	537.0	5.5	*****	5.53	D *****	0.0211	0.55	0.22
JUL 13,87	JUL 12,87	12.0	2.5	*****	5.88	*****	0.0161	<T 0.10	<T 0.02
JUL 15,87	JUL 13,87	526.0	3.0	*****	5.33	*****	0.0201	<T 0.20	<T 0.04
JUL 16,87	JUL 15,87	86.0	17.0	*****	4.66	*****	0.0483	1.80	0.54
JUL 17,87	JUL 16,87	3.0	*****	*****	*****	*****	*****	*****	*****
JUL 18,87	JUL 17,87	520.0	8.0	*****	5.14	*****	D 0.0256	D 0.85	0.27
JUL 19,87	JUL 18,87	727.0	6.0	*****	5.36	*****	0.0210	D 0.75	0.12
JUL 20,87	JUL 19,87	50.0	7.0	*****	5.10	*****	0.0281	0.80	0.17
JUL 22,87	JUL 21,87	134.0	7.0	*****	5.06	*****	0.0260	0.45	0.27
JUL 23,87	JUL 22,87	2415.0	10.5	*****	5.12	*****	0.0286	1.85	0.21
JUL 24,87	JUL 23,87	274.0	6.0	*****	5.24	*****	0.0236	0.40	0.13
AUG 1,87	JUL 31,87	2607.0	10.0	*****	6.41	*****	0.0170	1.70	0.40
AUG 2,87	AUG 1,87	97.0	11.5	*****	4.84	*****	0.0409	2.30	0.60
AUG 3,87	AUG 2,87	179.0	6.0	*****	5.99	*****	0.0192	0.75	0.20
AUG 10,87	AUG 9,87	124.0	9.0	*****	5.16	*****	0.0254	1.40	0.20
AUG 12,87	AUG 11,87	193.0	15.5	*****	6.49	*****	0.0201	3.60	0.46
AUG 13,87	AUG 12,87	434.0	11.0	*****	5.14	*****	0.0298	1.95	0.23
AUG 15,87	AUG 14,87	253.0	10.0	*****	4.75	*****	0.0364	1.05	0.12
AUG 16,87	AUG 15,87	137.0	10.0	*****	5.13	*****	0.0282	1.20	0.35
AUG 17,87	AUG 16,87	80.0	13.0	*****	4.51	*****	UG 0.0570	1.60	0.54
AUG 18,87	AUG 17,87	65.0	8.0	*****	4.94	*****	0.0301	0.85	0.10
AUG 19,87	AUG 18,87	294.0	7.5	*****	4.96	*****	0.0285	0.75	0.11
AUG 20,87	AUG 19,87	197.0	17.5	*****	4.60	*****	0.0481	2.00	0.32
AUG 21,87	AUG 20,87	50.0	13.5	*****	5.33	*****	0.0260	1.65	0.53
AUG 22,87	AUG 21,87	218.0	28.0	*****	4.43	*****	UG 0.0654	3.35	0.64
AUG 23,87	AUG 22,87	144.0	5.0	*****	5.05	*****	0.0300	0.60	<T 0.03
AUG 26,87	AUG 25,87	361.0	D 3.0	*****	D 5.91	*****	D 0.0198	D 0.35	0.08



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JUN 3,87	JUN 2,87	*****	*****	*****	*****	*****	*****	*****
JUN 4,87	JUN 3,87	*****	*****	*****	*****	*****	*****	*****
JUN 5,87	JUN 4,87	0.76	0.10	0.155	0.075	0.220	0.245	0.0093
JUN 7,87	JUN 6,87	0.22	0.10	0.045	0.035	<W 0.005	0.755	0.0002
JUN 11,87	JUN 10,87	0.30	0.10	0.040	0.035	0.030	0.215	0.0257
JUN 23,87	JUN 22,87	0.28	0.14	0.070	0.035	<T 0.025	0.830	0.0661
JUN 26,87	JUN 25,87	0.14	<W 0.01	0.040	<T 0.015	0.035	0.395	0.0162
JUN 27,87	JUN 26,87	<W 0.02	<W 0.00	<W 0.005	<W 0.005	<T 0.010	<T 0.005	0.0042
JUL 2,87	JUL 1,87	<T 0.08	0.05	<T 0.025	<T 0.025	0.025	0.230	0.0047
JUL 3,87	JUL 2,87	<T 0.04	<W 0.01	<T 0.010	<T 0.020	<T 0.020	0.085	0.0074
JUL 6,87	JUL 5,87	<T 0.04	0.06	<T 0.005	0.040	<T 0.020	0.065	0.0055
JUL 8,87	JUL 7,87	*****	*****	*****	*****	*****	*****	*****
JUL 11,87	JUL 10,87	0.20	0.10	0.030	0.030	0.045	0.350	0.0060
JUL 12,87	JUL 11,87	0.12	0.07	<T 0.015	<T 0.020	0.030	D 0.270	D 0.0030
JUL 13,87	JUL 12,87	<T 0.04	0.21	<W 0.005	0.055	0.070	<W 0.005	0.0013
JUL 15,87	JUL 13,87	<W 0.02	<W 0.01	<T 0.005	<W 0.005	<T 0.005	<T 0.010	0.0047
JUL 16,87	JUL 15,87	0.48	0.58	0.105	0.030	0.025	0.325	0.0219
JUL 17,87	JUL 16,87	*****	*****	*****	*****	*****	*****	*****
JUL 18,87	JUL 17,87	0.18	0.06	<T 0.025	0.035	<T 0.025	0.275	0.0072
JUL 19,87	JUL 18,87	0.12	0.05	<T 0.020	<T 0.010	0.025	0.165	0.0044
JUL 20,87	JUL 19,87	<T 0.08	0.05	<T 0.015	0.025	0.035	0.205	0.0079
JUL 22,87	JUL 21,87	0.12	0.06	0.025	0.025	0.050	0.135	0.0087
JUL 23,87	JUL 22,87	0.16	0.06	0.030	0.025	0.030	0.500	0.0076
JUL 24,87	JUL 23,87	<T 0.02	<W 0.01	<T 0.015	<T 0.010	<T 0.025	0.110	0.0058
AUG 1,87	JUL 31,87	0.36	0.08	0.060	0.045	0.035	0.650	0.0004
AUG 2,87	AUG 1,87	0.38	0.30	0.050	0.045	0.035	0.775	0.0145
AUG 3,87	AUG 2,87	<T 0.08	0.05	<T 0.020	0.025	<T 0.015	0.390	0.0010
AUG 10,87	AUG 9,87	0.36	0.06	0.085	0.035	<T 0.020	0.230	0.0069
AUG 12,87	AUG 11,87	0.76	0.12	D 0.160	0.070	<T 0.025	1.000	0.0003
AUG 13,87	AUG 12,87	0.40	<T 0.04	0.070	0.025	<T 0.005	0.475	0.0072
AUG 15,87	AUG 14,87	0.12	<T 0.03	<T 0.020	<T 0.010	<T 0.010	0.095	0.0178
AUG 16,87	AUG 15,87	0.16	0.09	<T 0.025	<T 0.025	0.030	0.515	0.0074
AUG 17,87	AUG 16,87	0.24	0.13	0.030	0.045	0.035	0.305	0.0309
AUG 18,87	AUG 17,87	<T 0.06	<W 0.01	<T 0.010	<T 0.015	<T 0.020	D 0.065	0.0115
AUG 19,87	AUG 18,87	<W 0.02	<W 0.01	<T 0.005	<T 0.025	<T 0.010	0.130	0.0110
AUG 20,87	AUG 19,87	0.24	<T 0.04	0.055	0.035	<T 0.015	0.350	0.0251
AUG 21,87	AUG 20,87	0.44	0.10	0.085	0.045	0.075	0.570	0.0047
AUG 22,87	AUG 21,87	0.52	0.16	0.050	0.045	0.060	0.760	0.0372
AUG 23,87	AUG 22,87	<W 0.02	<W 0.01	<T 0.010	<T 0.015	<W 0.005	<T 0.025	0.0089
AUG 26,87	AUG 25,87	<T 0.08	<W 0.01	<T 0.020	<T 0.020	<T 0.010	D 0.080	D 0.0012

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
AUG 27,87	AUG 26,87	730 730	730 1300	1	1.6	1	32491	2	1	40	N
AUG 30,87	AUG 29,87	800 800	2300 2400	1	10.6	1	32492	2	1	100	
AUG 31,87	AUG 30,87	800 730	2100 2200	1	1.2	1	32493	2	1	48	N
SEP 2,87	SEP 1,87	730 730	800 1000	1	1.0	1	32494	2	1	87	
SEP 4,87	SEP 3,87	730 730	1230 1430	1	5.6	1	32495	2	1	98	C HCM
SEP 6,87	SEP 5,87	800 800	1600 1800	1	8.4	1	32496	2	1	100	H
SEP 7,87	SEP 6,87	800 800	1200 1300	1	2.0	1	32497	2	1	83	H
SEP 8,87	SEP 7,87	800 730	2400 400	1	4.8	1	32498	2	1	91	AQ H
SEP 10,87	SEP 9,87	730 730	830 930	1	0.6	1	32499	2	1	148	NHM
SEP 11,87	SEP 10,87	730 730	1330 1730	1	7.4	1	31901	2	1	99	
SEP 12,87	SEP 11,87	730 800	1700 1800	1	0.6	1	31902	2	1	33	N
SEP 18,87	SEP 17,87	730 730	1600 1700	1	0.1	1	31903	2	1	****	EK
SEP 19,87	SEP 18,87	730 800	2400 400	1	12.0	1	31904	2	1	90	
SEP 20,87	SEP 19,87	800 800	1900 2100	1	11.0	1	31905	2	1	84	
SEP 21,87	SEP 20,87	800 730	1600 1900	1	3.8	1	31906	2	1	96	A C
SEP 27,87	SEP 26,87	800 800	2200 2300	1	0.2	1	31907	2	1	46	XN
SEP 29,87	SEP 28,87	730 730	100 400	1	1.2	1	31908	2	1	98	
OCT 2,87	OCT 1,87	730 730	****	3	8.0	2	31909	2	1	132	C NH
OCT 6,87	OCT 5,87	730 730	1100 1300	1	8.6	2	31910	2	1	76	HM
OCT 7,87	OCT 6,87	730 730	900 1100	3	1.8	2	31911	2	1	65	HCM
OCT 9,87	OCT 8,87	730 730	300 500	3	0.8	2	31912	2	1	99	
OCT 10,87	OCT 9,87	730 800	730 900	3	0.1	2	31913	2	1	****	EK
OCT 16,87	OCT 15,87	800 800	2 4	1	4.0	2	31914	2	1	90	
OCT 17,87	OCT 16,87	800 830	****	1	0.4	2	31915	2	1	****	EK
OCT 20,87	OCT 19,87	730 730	400 600	2	0.2	2	31916	2	1	31	XN
OCT 21,87	OCT 20,87	730 730	1600 1800	3	0.6	2	31917	2	1	54	
OCT 23,87	OCT 22,87	730 730	1330 1530	2	0.5	2	31918	2	1	12	XN
OCT 27,87	OCT 26,87	800 730	1700 1800	3	0.2	2	31919	2	1	54	X
OCT 28,87	OCT 27,87	730 730	1730 1930	3	1.8	2	31920	2	1	45	N
NOV 2,87	NOV 1,87	730 730	500 700	1	0.2	2	31921	2	1	140	N
NOV 3,87	NOV 2,87	730 730	800 1000	1	0.1	2	31922	2	1	****	EK
NOV 5,87	NOV 4,87	730 730	1830 1930	2	1.2	2	31923	2	1	32	N
NOV 16,87	NOV 15,87	730 730	300 500	1	8.8	2	31924	2	1	93	
NOV 17,87	NOV 16,87	730 730	****	3	15.6	2	31925	2	1	U 46	FI H
NOV 18,87	NOV 17,87	730 730	730 1200	2	1.0	2	31926	2	1	****	EIF
NOV 24,87	NOV 23,87	730 730	800 1100	3	1.2	2	31927	2	1	20	N
NOV 28,87	NOV 27,87	730 730	1800 2300	2	1.4	2	31928	2	1	42	N
NOV 30,87	NOV 29,87	730 730	900 1300	4	0.1	2	31929	2	1	****	EK
DEC 1,87	NOV 30,87	730 730	2000 2400	2	0.1	2	31931	2	1	****	EK
DEC 2,87	DEC 1,87	830 830	830 1100	2	0.1	2	31932	2	1	****	EK



PAGE : 8

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#16

PAGE : 9

[illegible]

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
DEC 7,87	DEC 6,87	730 800	1100 2000	2	3.3	2	31933	2	1	85	HM
DEC 9,87	DEC 8,87	730 730	1000 1400	3	0.2	2	31934	2	1	109	
DEC 11,87	DEC 10,87	730 730	2000 2200	3	0.2	2	31935	2	1	124	N
DEC 12,87	DEC 11,87	730 800	1600 2000	2	0.4	2	31936	2	1	66	
DEC 13,87	DEC 12,87	800 800	800 1100	2	1.9	2	31937	2	1	30	BQ N
DEC 14,87	DEC 13,87	800 730	2000 2400	2	1.0	2	31938	2	1	39	N
DEC 15,87	DEC 14,87	730 800	300 800	2	0.8	2	31939	2	1	35	N
DEC 16,87	DEC 15,87	800 730	800 1100	2	0.1	2	31940	2	1	****	EK
DEC 18,87	DEC 17,87	730 830	2300 830	2	1.5	2	31941	2	1	49	N
DEC 19,87	DEC 18,87	830 830	1600 1900	2	0.4	2	31942	2	1	39	N
DEC 20,87	DEC 19,87	830 830	2000 2400	2	1.8	2	31943	2	1	92	
DEC 21,87	DEC 20,87	830 730	1900 2100	2	0.6	2	31944	2	1	13	N
DEC 25,87	DEC 24,87	730 830	900 1300	2	3.1	2	31945	2	1	40	N
DEC 31,87	DEC 30,87	830 830	1400 630	2	3.2	2	31946	2	1	37	N

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 11

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
DEC 7,87	DEC 6,87	180.0	4.0	*****	5.29	*****	0.0246	0.45	0.13
DEC 9,87	DEC 8,87	14.0	8.0	*****	4.81	*****	0.0371	0.80	0.16
DEC 11,87	DEC 10,87	16.0	6.0	*****	5.81	*****	0.0193	1.10	0.20
DEC 12,87	DEC 11,87	17.0	4.0	*****	5.15	*****	D 0.0248	0.40	0.16
DEC 13,87	DEC 12,87	37.0	5.5	*****	5.01	*****	0.0305	0.75	0.11
DEC 14,87	DEC 13,87	25.0	6.5	*****	5.15	*****	0.0277	1.05	0.10
DEC 15,87	DEC 14,87	18.0	5.5	*****	5.04	*****	0.0265	0.35	0.16
DEC 16,87	DEC 15,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 18,87	DEC 17,87	48.0	15.5	*****	4.53	*****	0.0478	0.45	0.71
DEC 19,87	DEC 18,87	10.0	D 5.0	*****	D 5.55	*****	0.0231	0.35	0.25
DEC 20,87	DEC 19,87	107.0	21.0	*****	4.43	*****	0.0586	1.40	0.64
DEC 21,87	DEC 20,87	5.0	!IS *****	*****	!IS *****	*****	!IS *****	!IS *****	!IS *****
DEC 25,87	DEC 24,87	81.0	9.0	*****	4.70	*****	0.0377	0.25	0.31
DEC 31,87	DEC 30,87	77.0	25.5	*****	4.25	*****	0.0743	0.80	0.77

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : FERNBERG/DAILY/AEROCHEM

#16

PAGE : 12

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
DEC 7,87	DEC 6,87	<T 0.05	0.22	<W 0.005	0.105	0.130	0.055	0.0051
DEC 9,87	DEC 8,87	<T 0.04	<T 0.04	<W 0.005	<W 0.005	0.045	0.100	0.0155
DEC 11,87	DEC 10,87	!IS *****	0.05	!IS *****	!IS *****	!IS *****	0.125	0.0015
DEC 12,87	DEC 11,87	!IS *****	0.06	!IS *****	!IS *****	!IS *****	0.100	0.0071
DEC 13,87	DEC 12,87	!IS *****	0.07	!IS *****	!IS *****	!IS *****	<W 0.005	0.0098
DEC 14,87	DEC 13,87	!IS *****	0.12	!IS *****	!IS *****	!IS *****	0.030	0.0071
DEC 15,87	DEC 14,87	!IS *****	0.05	!IS *****	!IS *****	!IS *****	<T 0.020	0.0091
DEC 16,87	DEC 15,87	*****	*****	*****	*****	*****	*****	*****
DEC 18,87	DEC 17,87	0.46	0.09	0.055	0.035	0.070	<T 0.020	0.0295
DEC 19,87	DEC 18,87	!IS *****	0.09	!IS *****	!IS *****	!IS *****	0.095	D 0.0028
DEC 20,87	DEC 19,87	0.10	0.06	<T 0.015	<T 0.010	0.030	0.435	0.0372
DEC 21,87	DEC 20,87	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	<W 0.005	!IS *****
DEC 25,87	DEC 24,87	!IS *****	0.07	!IS *****	!IS *****	!IS *****	<W 0.005	0.0200
DEC 31,87	DEC 30,87	<T 0.08	0.11	<T 0.005	<T 0.005	0.045	0.170	0.0562

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/DAILY/AEROCHEM #14

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE	
JAN 2,87	JAN 1,87	900 900	****	****	2	2.8	2	31724	2	1	56	
JAN 20,87	JAN 19,87	900 900	****	****	2	6.5	2	31726	2	1	82	
JAN 30,87	JAN 29,87	900 900	****	****	2	4.4	2	31729	2	1	82	
FEB 3,87	FEB 2,87	900 900	****	****	2	2.0	2	31730	2	1	55	
FEB 11,87	FEB 10,87	900 900	****	****	2	2.0	2	31732	2	1	46	N
FEB 14,87	FEB 13,87	900 900	****	****	2	2.4	2	31733	2	1	60	
FEB 22,87	FEB 21,87	900 900	****	****	2	4.2	2	31735	2	1	115	
FEB 24,87	FEB 23,87	900 900	****	****	2	4.0	2	31736	2	1	75	
MAR 2,87	MAR 1,87	900 900	****	****	2	5.8	2	31737	2	1	69	M
MAR 24,87	MAR 23,87	900 900	****	****	1	5.8	2	31738	2	1	104	C
APR 1,87	MAR 31,87	900 900	****	****	2	2.4	2	31739	2	1	95	
APR 21,87	APR 20,87	900 900	****	****	1	0.1	1	31740	2	1	****	KE
MAY 13,87	MAY 12,87	900 900	****	****	1	3.0	1	31741	2	1	73	HM
MAY 14,87	MAY 13,87	900 900	****	****	1	5.0	1	31742	2	1	89	HM
MAY 16,87	MAY 15,87	900 900	****	****	1	2.1	1	31743	2	1	84	C
MAY 19,87	MAY 18,87	900 900	****	****	1	9.0	1	31744	2	1	203	NHM
MAY 21,87	MAY 20,87	900 900	****	****	1	8.8	1	31746	2	1	96	
MAY 22,87	MAY 21,87	900 900	****	****	1	25.0	1	31752	2	1	U 76	EG
MAY 26,87	MAY 25,87	900 900	****	****	1	11.2	1	31747	2	1	92	
JUN 2,87	JUN 1,87	900 900	****	****	1	13.8	1	31748	2	1	U 99	EG
JUN 4,87	JUN 3,87	900 900	****	****	1	9.2	1	31749	2	1	U 95	EG
JUN 5,87	JUN 4,87	900 900	****	****	1	3.4	1	31750	2	1	82	
JUN 6,87	JUN 5,87	900 900	****	****	1	3.2	1	31751	2	1	73	H
JUN 24,87	JUN 23,87	900 900	****	****	1	4.9	1	31753	2	1	83	C
JUN 27,87	JUN 26,87	900 900	****	****	1	7.8	1	31754	2	1	82	
JUL 2,87	JUL 1,87	900 900	****	****	1	6.0	1	31755	2	1	87	
JUL 3,87	JUL 2,87	900 900	****	****	1	3.4	1	31756	2	1	69	
JUL 8,87	JUL 7,87	900 900	****	****	1	4.0	1	31757	2	1	82	
JUL 10,87	JUL 9,87	900 900	****	****	1	4.8	1	31758	2	1	103	
JUL 11,87	JUL 10,87	900 900	****	****	1	6.0	1	31759	2	1	101	
JUL 12,87	JUL 11,87	900 900	****	****	1	7.2	1	31760	2	1	96	
JUL 15,87	JUL 14,87	900 900	****	****	1	3.6	1	31761	2	1	74	
JUL 16,87	JUL 15,87	900 900	****	****	1	6.0	1	31762	2	1	91	
JUL 17,87	JUL 16,87	900 900	****	****	1	7.4	1	31763	2	1	89	
JUL 19,87	JUL 18,87	900 900	1000	****	1	14.8	1	31764	2	1	99	
JUL 20,87	JUL 19,87	900 900	****	****	1	9.6	1	31765	2	1	92	
JUL 22,87	JUL 21,87	900 900	****	****	1	7.0	1	31766	2	1	96	C
JUL 23,87	JUL 22,87	900 900	****	****	1	25.0	1	31767	2	1	100	
AUG 1,87	JUL 31,87	900 900	****	****	1	25.0	1	31768	2	1	U 211	AP
AUG 4,87	AUG 3,87	900 900	****	****	1	6.0	1	31769	2	1	97	C

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/DAILY/AEROCHEM #14

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	
JAN 2,87	JAN 1,87	102.0	8.7	*****	UG	6.27	*****	0.0186	1.15	0.39
JAN 20,87	JAN 19,87	343.0	7.7	*****		4.82	*****	0.0298	0.40	0.21
JAN 30,87	JAN 29,87	232.0	7.8	*****		4.82	*****	0.0299	0.30	0.23
FEB 3,87	FEB 2,87	71.0	5.6	*****		5.10	*****	0.0224	0.35	0.16
FEB 11,87	FEB 10,87	60.0	19.8	*****	UG	6.79	*****	0.0209	1.95	0.88
FEB 14,87	FEB 13,87	93.0	18.6	*****		4.68	*****	0.0439	2.35	0.45
FEB 22,87	FEB 21,87	310.0	19.8	*****		4.60	*****	0.0466	1.20	0.89
FEB 24,87	FEB 23,87	194.0	UG 53.4	*****		3.91	*****	UG 0.1480	2.90	UG 1.58
MAR 2,87	MAR 1,87	257.0	7.8	*****		4.76	*****	<W 0.0316	0.05	0.24
MAR 24,87	MAR 23,87	388.0	31.3	*****		4.85	*****	UG 0.0425	6.65	0.88
APR 1,87	MAR 31,87	147.0	17.8	*****		4.46	*****	1.55		0.31
APR 21,87	APR 20,87	*****	*****	*****	*****	*****	*****	*****	*****	*****
MAY 13,87	MAY 12,87	142.0	UG 31.3	*****	UG	6.90	*****	0.0337	3.95	0.93
MAY 14,87	MAY 13,87	286.0	16.2	*****		6.60	*****	D 0.0263	2.05	0.48
MAY 16,87	MAY 15,87	114.0	17.8	*****	UG	6.95	*****	0.0209	2.00	0.58
MAY 19,87	MAY 18,87	1172.0	7.3	*****	D	5.35	*****	D 0.0252	0.80	0.17
MAY 21,87	MAY 20,87	544.0	14.3	*****		4.69	*****	0.0356	1.60	0.40
MAY 22,87	MAY 21,87	1230.0	*****	*****	*****	*****	*****	*****	*****	*****
MAY 26,87	MAY 25,87	667.0	12.8	*****		4.53	*****	0.0392	1.35	0.15
JUN 2,87	JUN 1,87	879.0	*****	*****	*****	*****	*****	*****	*****	*****
JUN 4,87	JUN 3,87	562.0	*****	*****	*****	*****	*****	*****	*****	*****
JUN 5,87	JUN 4,87	179.0	5.1	*****	<=>	5.00	*****	0.0216	<=> 0.50	<T 0.05
JUN 6,87	JUN 5,87	151.0	19.4	*****		4.81	*****	0.0406	1.70	0.85
JUN 24,87	JUN 23,87	263.0	9.0	*****		5.12	*****	0.0309	*****	0.25
JUN 27,87	JUN 26,87	411.0	7.0	*****		4.98	*****	0.0313	1.10	0.08
JUL 2,87	JUL 1,87	338.0	11.0	*****		4.94	*****	D 0.0339	D 1.35	0.36
JUL 3,87	JUL 2,87	152.0	4.0	*****		5.15	*****	0.0248	0.25	0.08
JUL 8,87	JUL 7,87	212.0	9.5	*****		5.09	*****	0.0296	1.40	0.24
JUL 10,87	JUL 9,87	319.0	8.5	*****		5.25	*****	0.0277	1.00	0.39
JUL 11,87	JUL 10,87	392.0	8.0	*****		4.93	*****	0.0315	0.70	0.27
JUL 12,87	JUL 11,87	445.0	6.0	*****		5.07	*****	0.0282	0.55	0.12
JUL 15,87	JUL 14,87	171.0	3.0	*****		5.32	*****	0.0218	0.20	0.04
JUL 16,87	JUL 15,87	352.0	9.0	*****		4.95	*****	0.0308	1.00	0.31
JUL 17,87	JUL 16,87	426.0	5.0	*****	D	6.00	*****	D 0.0198	0.65	0.18
JUL 19,87	JUL 18,87	940.0	10.0	*****		4.91	*****	0.0345	1.50	0.23
JUL 20,87	JUL 19,87	570.0	5.5	*****		5.10	*****	0.0266	0.50	0.17
JUL 22,87	JUL 21,87	432.0	12.5	*****		4.91	*****	0.0354	1.85	0.42
JUL 23,87	JUL 22,87	1613.0	5.5	*****		5.30	*****	0.0231	0.85	0.15
AUG 1,87	JUL 31,87	3392.0	5.5	*****		5.61	*****	0.0215	0.70	0.21
AUG 4,87	AUG 3,87	376.0	3.0	*****		5.59	*****	0.0185	0.30	0.04



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/DAILY/AEROCHEM #14

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 2,87	JAN 1,87	0.28	0.07	<T 0.025	0.030	0.060	0.555	UG 0.0005
JAN 20,87	JAN 19,87	D 0.16	0.09	<T 0.010	<T 0.005	<T 0.025	0.040	0.0151
JAN 30,87	JAN 29,87	0.14	0.07	<T 0.005	<T 0.005	<T 0.025	0.045	0.0151
FEB 3,87	FEB 2,87	<T 0.10	0.10	<T 0.010	0.040	0.040	0.030	0.0079
FEB 11,87	FEB 10,87	1.02	0.35	0.200	0.045	0.175	1.100	UG 0.0002
FEB 14,87	FEB 13,87	!IS *****	0.24	!IS *****	!IS *****	!IS *****	0.615	0.0209
FEB 22,87	FEB 21,87	0.50	0.21	0.075	0.110	0.075	0.475	0.0251
FEB 24,87	FEB 23,87	0.22	0.29	0.030	0.045	0.110	0.685	0.1230
MAR 2,87	MAR 1,87	<T 0.05	0.10	0.015	<T 0.020	0.030	0.020	0.0174
MAR 24,87	MAR 23,87	UG 2.34	0.29	0.265	UG 0.505	0.110	0.600	0.0141
APR 1,87	MAR 31,87	0.36	0.08	0.040	<T 0.020	0.030	0.130	0.0347
APR 21,87	APR 20,87	*****	*****	*****	*****	*****	*****	*****
MAY 13,87	MAY 12,87	1.14	0.25	0.260	UG 0.670	UG 0.250	2.000	UG 0.0001
MAY 14,87	MAY 13,87	1.00	0.09	0.205	0.115	0.120	0.735	0.0003
MAY 16,87	MAY 15,87	0.94	0.13	0.195	UG 0.305	0.080	0.950	UG 0.0001
MAY 19,87	MAY 18,87	0.22	0.06	0.035	0.030	<T 0.010	D 0.280	D 0.0045
MAY 21,87	MAY 20,87	<T 0.10	0.10	<T 0.010	0.030	<T 0.010	0.530	0.0204
MAY 22,87	MAY 21,87	*****	*****	*****	*****	*****	*****	*****
MAY 26,87	MAY 25,87	<T 0.02	<T 0.05	<W 0.005	0.025	<W 0.005	0.115	0.0295
JUN 2,87	JUN 1,87	*****	*****	*****	*****	*****	*****	*****
JUN 4,87	JUN 3,87	*****	*****	*****	*****	*****	*****	*****
JUN 5,87	JUN 4,87	<W 0.02	<W 0.01	<W 0.005	<T 0.010	<W 0.005	<W 0.005	<=> 0.0100
JUN 6,87	JUN 5,87	0.58	0.25	0.080	0.155	0.080	0.715	0.0155
JUN 24,87	JUN 23,87	0.22	0.07	0.045	0.140	0.030	0.320	0.0076
JUN 27,87	JUN 26,87	0.20	0.04	0.035	0.045	0.045	0.065	0.0105
JUL 2,87	JUL 1,87	D 0.22	0.13	0.050	0.045	<T 0.010	0.385	0.0115
JUL 3,87	JUL 2,87	<T 0.04	0.02	<T 0.005	<T 0.005	<T 0.010	0.045	0.0071
JUL 8,87	JUL 7,87	0.24	0.37	0.055	0.125	UG 0.225	0.245	0.0081
JUL 10,87	JUL 9,87	0.14	0.06	0.030	0.030	<T 0.020	0.475	0.0056
JUL 11,87	JUL 10,87	0.22	0.08	0.030	0.035	0.040	0.145	0.0117
JUL 12,87	JUL 11,87	<T 0.08	0.06	<T 0.010	0.040	0.045	0.105	0.0085
JUL 15,87	JUL 14,87	<T 0.02	0.03	<W 0.005	0.025	<T 0.010	<T 0.005	0.0048
JUL 16,87	JUL 15,87	0.26	0.06	0.055	0.035	<T 0.025	0.215	0.0112
JUL 17,87	JUL 16,87	0.12	0.05	<T 0.025	0.065	0.035	0.275	D 0.0010
JUL 19,87	JUL 18,87	0.28	0.11	0.035	0.040	0.055	0.310	0.0123
JUL 20,87	JUL 19,87	<T 0.08	0.06	<T 0.015	0.035	<T 0.025	0.135	0.0079
JUL 22,87	JUL 21,87	0.32	0.11	0.040	0.035	0.050	0.480	0.0123
JUL 23,87	JUL 22,87	0.10	0.03	<T 0.015	<T 0.020	<T 0.015	0.250	0.0050
AUG 1,87	JUL 31,87	0.14	0.04	<T 0.025	0.030	<T 0.015	0.265	0.0025
AUG 4,87	AUG 3,87	<T 0.04	0.01	<T 0.015	0.025	<T 0.015	0.035	0.0026



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/DAILY/AEROCHEM #14

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE	
AUG 12,87	AUG 11,87	900 900	****	****	1	47.0	1	31773	2	1	105	
AUG 14,87	AUG 13,87	900 900	****	****	1	0.1	1	31774	2	1	****	E N
AUG 15,87	AUG 14,87	900 900	****	****	1	11.0	1	31775	2	1	104	
AUG 16,87	AUG 15,87	900 900	****	****	1	34.6	1	31776	2	1	97	
AUG 17,87	AUG 16,87	900 900	****	****	1	3.4	1	31777	2	1	88	
AUG 18,87	AUG 17,87	900 900	****	****	1	3.0	1	31778	2	1	86	M
AUG 20,87	AUG 19,87	900 900	****	****	1	****	1	31779	2	1	****	
AUG 22,87	AUG 21,87	900 900	****	****	1	****	1	31780	2	1	****	
AUG 26,87	AUG 25,87	900 900	****	****	1	****	1	31782	2	1	****	
AUG 30,87	AUG 29,87	900 900	****	****	1	****	1	31783	2	1	****	HM
SEP 4,87	SEP 3,87	900 900	****	****	1	3.8	1	31784	2	1	93	H
SEP 6,87	SEP 5,87	900 900	****	****	1	22.1	1	31785	2	1	94	
SEP 7,87	SEP 6,87	900 900	****	****	1	2.0	1	31786	2	1	31	NH
SEP 9,87	SEP 8,87	900 900	****	****	1	4.4	1	31787	2	1	81	
SEP 11,87	SEP 10,87	900 900	****	****	1	13.0	1	31788	2	1	98	
SEP 14,87	SEP 13,87	900 900	****	****	1	6.4	1	31789	2	1	91	
SEP 20,87	SEP 19,87	900 900	****	****	1	18.0	1	31790	2	1	93	A
SEP 21,87	SEP 20,87	900 900	****	****	1	5.4	1	31791	2	1	92	
OCT 1,87	SEP 30,87	900 900	****	****	1	4.0	1	31792	2	1	104	A
OCT 6,87	OCT 5,87	900 900	****	****	1	4.0	2	31793	2	1	124	C NC
OCT 9,87	OCT 8,87	900 900	****	****	2	10.6	2	31794	2	1	53	C M
OCT 16,87	OCT 15,87	900 900	****	****	1	3.8	2	31795	2	1	56	Q
OCT 21,87	OCT 20,87	900 900	****	****	2	0.1	2	31796	2	1	****	EK
OCT 23,87	OCT 22,87	900 900	****	****	2	3.0	2	31797	2	1	53	M
OCT 24,87	OCT 23,87	900 900	****	****	2	****	*	31798	2	1	****	P HCM
OCT 27,87	OCT 26,87	900 900	****	****	3	3.4	2	31799	2	1	****	FKI
NOV 3,87	NOV 2,87	900 900	****	****	1	0.1	2	31800	2	1	****	EK
NOV 6,87	NOV 5,87	900 900	****	****	2	0.1	2	31801	2	1	****	EK
NOV 17,87	NOV 16,87	900 900	****	****	3	11.4	2	31803	2	1	83	
DEC 1,87	NOV 30,87	900 900	****	****	2	0.1	2	31804	2	1	****	EK
DEC 9,87	DEC 8,87	900 900	****	****	3	0.1	2	31805	2	1	****	EK
DEC 10,87	DEC 9,87	900 900	****	****	2	0.6	2	31806	2	1	83	
DEC 11,87	DEC 10,87	900 900	****	****	2	4.0	2	31807	2	1	73	H
DEC 12,87	DEC 11,87	900 900	****	****	2	0.1	2	31808	2	1	****	EK
DEC 13,87	DEC 12,87	900 900	****	****	2	3.8	2	31809	2	1	69	
DEC 14,87	DEC 13,87	900 900	****	****	2	0.1	2	31810	2	1	****	EK
DEC 15,87	DEC 14,87	900 900	****	****	2	1.0	2	31811	2	1	49	N
DEC 21,87	DEC 20,87	900 900	****	****	2	2.4	2	31812	2	1	44	N
DEC 31,87	DEC 30,87	900 900	****	****	2	3.4	2	31813	2	1	76	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/DAILY/AEROCHEM #14

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
AUG 12,87	AUG 11,87	3179.0	6.0	*****	5.19	*****	0.0250	0.75	0.12
AUG 14,87	AUG 13,87	*****	*****	*****	*****	*****	*****	*****	*****
AUG 15,87	AUG 14,87	738.0	11.5	*****	4.59	*****	0.0442	1.35	0.11
AUG 16,87	AUG 15,87	2163.0	6.0	*****	5.11	*****	0.0248	0.50	0.15
AUG 17,87	AUG 16,87	192.0	7.0	*****	5.00	*****	0.0294	0.60	0.14
AUG 18,87	AUG 17,87	166.0	4.0	*****	5.21	*****	0.0269	0.45	<T 0.03
AUG 20,87	AUG 19,87	340.0	7.5	*****	5.39	*****	0.0225	1.15	0.15
AUG 22,87	AUG 21,87	420.0	19.0	*****	4.50	*****	UG 0.0530	1.90	0.40
AUG 26,87	AUG 25,87	323.0	9.5	*****	4.72	*****	0.0373	1.10	0.06
AUG 30,87	AUG 29,87	393.0	3.5	*****	5.52	*****	0.0206	0.50	0.07
SEP 4,87	SEP 3,87	227.0	14.0	*****	5.21	*****	0.0301	1.90	0.50
SEP 6,87	SEP 5,87	1343.0	6.5	*****	5.16	*****	0.0257	0.85	0.16
SEP 7,87	SEP 6,87	41.0	18.0	*****	5.71	*****	0.0244	3.15	0.61
SEP 9,87	SEP 8,87	230.0	6.5	*****	6.14	*****	0.0199	0.70	0.18
SEP 11,87	SEP 10,87	818.0	D 6.0	*****	5.36	*****	0.0218	D 0.75	0.17
SEP 14,87	SEP 13,87	375.0	3.0	*****	5.39	*****	0.0257	0.40	<T 0.04
SEP 20,87	SEP 19,87	1083.0	14.0	*****	D 4.52	*****	0.0488	1.35	0.12
SEP 21,87	SEP 20,87	320.0	5.0	*****	5.03	*****	0.0263	0.45	<T 0.05
OCT 1,87	SEP 30,87	269.0	6.0	*****	6.54	*****	0.0166	1.55	0.28
OCT 6,87	OCT 5,87	319.0	LG 2.0	*****	5.99	*****	0.0168	0.70	<T 0.04
OCT 9,87	OCT 8,87	361.0	10.0	*****	UG 7.21	*****	D 0.0128	1.50	0.57
OCT 16,87	OCT 15,87	138.0	15.0	*****	4.50	*****	UG 0.0571	2.30	0.29
OCT 21,87	OCT 20,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 23,87	OCT 22,87	102.0	5.0	*****	4.98	*****	0.0346	0.75	0.13
OCT 24,87	OCT 23,87	67.0	LG 2.0	*****	5.43	*****	0.0190	0.50	0.08
OCT 27,87	OCT 26,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 3,87	NOV 2,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 6,87	NOV 5,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 17,87	NOV 16,87	613.0	15.0	*****	4.49	*****	0.0567	1.65	0.34
DEC 1,87	NOV 30,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 9,87	DEC 8,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 10,87	DEC 9,87	32.0	7.5	*****	4.89	*****	0.0233	1.35	0.09
DEC 11,87	DEC 10,87	188.0	7.5	*****	5.25	*****	0.0264	0.80	0.35
DEC 12,87	DEC 11,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 13,87	DEC 12,87	170.0	7.5	*****	4.77	*****	0.0338	0.50	0.19
DEC 14,87	DEC 13,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 15,87	DEC 14,87	32.0	15.5	*****	4.45	*****	0.0368	0.65	0.43
DEC 21,87	DEC 20,87	69.0	10.0	*****	5.01	*****	0.0392	0.80	0.39
DEC 31,87	DEC 30,87	167.0	22.0	*****	4.35	*****	0.0661	0.75	0.75

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : QUETICO CENTRE/DAILY/AEROCHEM #14

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
AUG 12,87	AUG 11,87	0.12	0.05	<T 0.015	<T 0.010	<T 0.010	0.190	0.0065
AUG 14,87	AUG 13,87	*****	*****	*****	*****	*****	*****	*****
AUG 15,87	AUG 14,87	<T 0.06	<T 0.04	<T 0.015	0.030	<T 0.010	0.115	0.0257
AUG 16,87	AUG 15,87	<T 0.04	<T 0.04	<T 0.010	<T 0.010	<T 0.020	0.150	0.0078
AUG 17,87	AUG 16,87	<T 0.06	0.10	<T 0.015	0.045	0.060	0.085	0.0100
AUG 18,87	AUG 17,87	<T 0.02	<T 0.04	<T 0.005	<T 0.015	0.025	<W 0.005	0.0062
AUG 20,87	AUG 19,87	0.18	0.06	0.050	0.040	0.030	0.250	0.0041
AUG 22,87	AUG 21,87	0.30	0.06	0.045	0.045	0.035	0.345	0.0316
AUG 26,87	AUG 25,87	<T 0.08	<W 0.01	<T 0.025	<T 0.020	<T 0.010	LG 0.030	0.0191
AUG 30,87	AUG 29,87	<W 0.02	<W 0.01	<T 0.005	0.050	<T 0.020	0.110	0.0030
SEP 4,87	SEP 3,87	0.44	0.07	0.050	0.100	0.030	0.710	0.0062
SEP 6,87	SEP 5,87	0.20	<T 0.04	0.025	0.030	<T 0.015	0.175	0.0069
SEP 7,87	SEP 6,87	0.88	0.14	0.190	0.190	0.095	0.775	0.0019
SEP 9,87	SEP 8,87	!IS *****	<T 0.04	!IS *****	!IS *****	!IS *****	!IS *****	0.0007
SEP 11,87	SEP 10,87	0.20	0.08	0.040	0.030	<T 0.020	0.155	0.0044
SEP 14,87	SEP 13,87	<T 0.04	0.09	<T 0.005	0.040	0.050	0.050	0.0041
SEP 20,87	SEP 19,87	0.14	<T 0.04	<T 0.020	0.025	<T 0.015	<T 0.025	D 0.0302
SEP 21,87	SEP 20,87	<T 0.02	<W 0.01	<W 0.005	<T 0.015	<W 0.005	<T 0.020	0.0093
OCT 1,87	SEP 30,87	0.58	0.06	0.120	0.095	0.070	0.320	0.0003
OCT 6,87	OCT 5,87	0.18	<T 0.02	0.035	<T 0.020	0.030	0.085	0.0010
OCT 9,87	OCT 8,87	1.16	0.16	0.255	0.100	0.045	0.455	UG 0.0001
OCT 16,87	OCT 15,87	0.50	<T 0.04	0.085	0.030	<T 0.025	0.160	0.0316
OCT 21,87	OCT 20,87	*****	*****	*****	*****	*****	*****	*****
OCT 23,87	OCT 22,87	<T 0.08	<T 0.01	<T 0.010	<T 0.015	0.055	<T 0.025	0.0105
OCT 24,87	OCT 23,87	<T 0.06	0.15	<T 0.010	<T 0.010	0.110	<T 0.005	0.0037
OCT 27,87	OCT 26,87	*****	*****	*****	*****	*****	*****	*****
NOV 3,87	NOV 2,87	*****	*****	*****	*****	*****	*****	*****
NOV 6,87	NOV 5,87	*****	*****	*****	*****	*****	*****	*****
NOV 17,87	NOV 16,87	<T 0.10	<T 0.04	<W 0.005	<T 0.015	<T 0.010	0.300	0.0324
DEC 1,87	NOV 30,87	*****	*****	*****	*****	*****	*****	*****
DEC 9,87	DEC 8,87	*****	*****	*****	*****	*****	*****	*****
DEC 10,87	DEC 9,87	!IS *****	0.10	!IS *****	!IS *****	!IS *****	0.600	0.0129
DEC 11,87	DEC 10,87	0.22	0.11	0.040	<T 0.020	0.105	0.210	0.0056
DEC 12,87	DEC 11,87	*****	*****	*****	*****	*****	*****	*****
DEC 13,87	DEC 12,87	<T 0.02	0.08	<T 0.005	<W 0.005	0.045	<T 0.020	0.0170
DEC 14,87	DEC 13,87	*****	*****	*****	*****	*****	*****	*****
DEC 15,87	DEC 14,87	!IS *****	0.12	!IS *****	!IS *****	!IS *****	<T 0.005	0.0355
DEC 21,87	DEC 20,87	0.28	0.19	0.035	0.025	0.130	0.175	0.0098
DEC 31,87	DEC 30,87	!IS *****	0.13	!IS *****	!IS *****	!IS *****	0.130	0.0447

PART V

SOUTHEASTERN REGION

DAILY PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 3,87	JAN 2,87	800 700	1300 2300	2	9.6	2	54097	2	1	72	
JAN 8,87	JAN 7,87	600 900	700 1600	2	1.7	2	54098	2	1	149	N
JAN 9,87	JAN 8,87	900 900	1400 900	2	****	2	54099	2	1	****	E
JAN 10,87	JAN 9,87	900 800	500 800	2	1.9	2	54100	2	1	94	
JAN 11,87	JAN 10,87	800 800	800 1100	2	3.6	2	54101	2	1	76	
JAN 12,87	JAN 11,87	800 800	1800 600	3	1.0	2	54103	2	1	113	
JAN 16,87	JAN 15,87	600 1000	700 1400	1	2.3	2	54105	2	1	153	N
JAN 19,87	JAN 18,87	700 800	900 1900	2	7.9	2	54106	2	1	80	J
JAN 21,87	JAN 20,87	630 630	2000 300	2	3.2	2	54107	2	1	100	
JAN 23,87	JAN 22,87	630 630	1600 630	2	9.6	2	54108	2	1	84	CM
JAN 24,87	JAN 23,87	630 630	630 1500	2	0.3	2	54109	2	1	52	
JAN 28,87	JAN 27,87	630 830	1400 2300	2	****	2	54110	2	1	****	E
JAN 29,87	JAN 28,87	830 900	1100 1900	2	****	2	54111	2	1	****	E
JAN 31,87	JAN 30,87	800 900	1000 900	2	8.8	2	54112	2	1	83	C
FEB 3,87	FEB 2,87	900 930	1100 930	3	3.5	2	54113	2	1	100	
FEB 4,87	FEB 3,87	930 930	930 930	3	0.3	2	54114	2	1	265	N
FEB 5,87	FEB 4,87	930 830	1500 200	2	0.3	2	54115	2	1	379	NC
FEB 7,87	FEB 6,87	830 900	1700 7100	2	1.0	2	54116	2	1	137	N
FEB 9,87	FEB 8,87	900 900	1100 300	2	27.2	2	54117	2	1	74	
FEB 13,87	FEB 12,87	900 630	1900 300	2	1.3	2	54118	2	1	111	
MAR 1,87	FEB 28,87	800 900	**** ****	3	14.4	2	54120	2	1	50	C
MAR 3,87	MAR 1,87	900 900	1000 2100	3	24.2	2	57058	2	1	88	E Z
MAR 4,87	MAR 3,87	900 600	1700 2300	2	0.6	2	57059	2	1	****	E N
MAR 28,87	MAR 27,87	800 630	1900 300	1	0.2	2	57060	2	1	****	E N
MAR 31,87	MAR 30,87	800 830	1100 830	1	9.0	2	57061	2	1	120	NT
APR 1,87	MAR 31,87	830 900	830 100	3	13.8	2	57062	2	1	79	
APR 2,87	APR 1,87	900 900	300 900	2	2.2	2	57063	2	1	92	
APR 3,87	APR 2,87	900 900	900 1500	3	3.7	2	57064	2	1	****	E N
APR 4,87	APR 3,87	900 730	300 730	1	9.2	2	57065	2	1	67	
APR 5,87	APR 4,87	730 730	730 1800	1	10.0	2	57066	2	1	100	
APR 6,87	APR 5,87	730 800	1400 800	1	2.2	2	57067	2	1	173	N
APR 7,87	APR 6,87	800 800	800 2400	1	1.5	2	57068	2	1	173	NC
APR 8,87	APR 7,87	800 800	500 800	1	0.2	2	57069	2	1	436	N
APR 13,87	APR 12,87	800 800	100 600	1	****	1	54122	2	1	****	P C
APR 24,87	APR 23,87	800 1200	900 100	1	12.1	1	54123	2	1	120	N
APR 28,87	APR 27,87	600 600	2300 600	3	5.6	1	54124	2	1	110	CD
APR 30,87	APR 29,87	700 700	**** ****	1	6.4	1	54125	2	1	111	D
MAY 5,87	MAY 4,87	800 1100	**** ****	1	0.1	1	54126	2	1	****	E N
MAY 12,87	MAY 11,87	700 630	730 1100	1	6.4	1	69001	2	1	100	CD JH
MAY 15,87	MAY 14,87	800 900	2200 500	1	8.2	1	69002	2	1	99	C

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 3,87	JAN 2,87	449.0	7.7	4.50	4.81	*****	0.0300	LG 0.25	0.25
JAN 8,87	JAN 7,87	163.0	67.0	3.81	3.95	*****	0.1310	3.70	2.45
JAN 9,87	JAN 8,87	2.0	*****	*****	*****	*****	*****	*****	*****
JAN 10,87	JAN 9,87	115.0	21.1	*****	4.39	*****	0.0557	1.50	0.43
JAN 11,87	JAN 10,87	176.0	29.5	4.25	4.45	*****	0.0535	3.20	0.94
JAN 12,87	JAN 11,87	73.0	7.8	*****	5.45	*****	0.0183	0.80	0.32
JAN 16,87	JAN 15,87	226.0	> 100.0	3.66	3.77	*****	0.2220	4.45	2.75
JAN 19,87	JAN 18,87	409.0	17.6	3.76	4.65	*****	0.0423	0.90	0.56
JAN 21,87	JAN 20,87	207.0	59.9	3.91	3.99	*****	0.1450	2.60	1.42
JAN 23,87	JAN 22,87	519.0	8.3	D 4.80	4.97	*****	0.0295	LG 0.20	0.26
JAN 24,87	JAN 23,87	10.0	10.1	*****	4.80	*****	0.0352	LG 0.10	0.33
JAN 28,87	JAN 27,87	1.0	*****	*****	*****	*****	*****	*****	*****
JAN 29,87	JAN 28,87	3.0	*****	*****	*****	*****	*****	*****	*****
JAN 31,87	JAN 30,87	473.0	81.1	*****	4.16	*****	0.1030	1.95	0.98
FEB 3,87	FEB 2,87	225.0	70.2	4.01	4.07	*****	0.1290	5.55	2.68
FEB 4,87	FEB 3,87	51.0	12.1	*****	4.97	*****	0.0313	1.40	0.32
FEB 5,87	FEB 4,87	73.0	LG 4.8	*****	6.68	*****	LG 0.0138	LG 0.35	LG 0.05
FEB 7,87	FEB 6,87	88.0	78.9	*****	3.91	*****	0.1650	4.10	2.60
FEB 9,87	FEB 8,87	1300.0	13.0	D 4.98	5.09	*****	0.0279	1.00	0.54
FEB 13,87	FEB 12,87	93.0	25.6	*****	4.36	*****	0.0689	LG 0.25	1.12
MAR 1,87	FEB 28,87	464.0	8.1	*****	5.28	*****	D 0.0216	0.75	0.22
MAR 3,87	MAR 1,87	1374.0	9.5	*****	4.79	*****	0.0277	0.90	0.18
MAR 4,87	MAR 3,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 28,87	MAR 27,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 31,87	MAR 30,87	698.0	18.5	*****	D 4.41	*****	0.0368	D 1.70	0.31
APR 1,87	MAR 31,87	702.0	16.5	*****	4.41	*****	0.0955	1.75	0.13
APR 2,87	APR 1,87	131.0	20.0	*****	4.37	*****	0.0917	1.05	0.37
APR 3,87	APR 2,87	*****	*****	*****	*****	*****	*****	*****	*****
APR 4,87	APR 3,87	399.0	27.0	*****	4.25	*****	0.0837	1.80	0.49
APR 5,87	APR 4,87	645.0	9.5	*****	4.68	*****	D 0.0661	0.65	0.11
APR 6,87	APR 5,87	245.0	17.5	*****	4.39	*****	0.0633	1.55	0.21
APR 7,87	APR 6,87	167.0	8.5	*****	4.50	*****	0.0738	1.70	LG 0.09
APR 8,87	APR 7,87	56.0	15.0	*****	4.43	*****	0.0763	1.65	0.23
APR 13,87	APR 12,87	40.0	60.0	*****	3.75	*****	0.2120	5.60	1.30
APR 24,87	APR 23,87	937.0	65.0	*****	3.72	*****	D 0.2300	6.05	1.01
APR 28,87	APR 27,87	397.0	25.0	*****	4.33	*****	0.1340	1.20	0.64
APR 30,87	APR 29,87	457.0	D 14.0	*****	D 4.82	*****	0.0442	D 2.00	0.49
MAY 5,87	MAY 4,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 12,87	MAY 11,87	414.0	31.1	3.93	4.60	*****	0.0911	7.45	<T 0.05
MAY 15,87	MAY 14,87	523.0	39.9	3.68	4.01	*****	0.1170	3.40	0.45

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 3,87	JAN 2,87	0.10	0.08	<T 0.005	<W 0.005	<T 0.010	<T 0.005	0.0155
JAN 8,87	JAN 7,87	1.86	0.40	0.055	0.030	0.110	0.665	0.1122
JAN 9,87	JAN 8,87	*****	*****	*****	*****	*****	*****	*****
JAN 10,87	JAN 9,87	0.12	0.06	<T 0.010	<T 0.010	<T 0.020	0.165	0.0407
JAN 11,87	JAN 10,87	1.50	0.16	0.035	0.055	0.065	0.315	0.0355
JAN 12,87	JAN 11,87	0.62	0.13	<T 0.020	<T 0.010	0.045	0.055	UG 0.0035
JAN 16,87	JAN 15,87	0.72	0.33	<T 0.020	0.045	0.070	1.550	0.1698
JAN 19,87	JAN 18,87	0.56	0.20	0.035	<T 0.010	0.045	0.100	0.0224
JAN 21,87	JAN 20,87	0.30	0.57	<T 0.020	<T 0.015	0.210	0.460	0.1023
JAN 23,87	JAN 22,87	0.16	D 0.06	<W 0.005	<W 0.005	<T 0.010	<T 0.005	0.0107
JAN 24,87	JAN 23,87	!IS *****	0.08	!IS *****	!IS *****	!IS *****	LG 0.005	0.0158
JAN 28,87	JAN 27,87	*****	*****	*****	*****	*****	*****	*****
JAN 29,87	JAN 28,87	*****	*****	*****	*****	*****	*****	*****
JAN 31,87	JAN 30,87	0.32	0.17	<T 0.010	<T 0.010	0.035	0.290	0.0692
FEB 3,87	FEB 2,87	1.84	0.56	0.075	0.070	0.215	1.750	0.0851
FEB 4,87	FEB 3,87	0.80	0.13	<T 0.015	<T 0.010	0.060	<T 0.005	0.0107
FEB 5,87	FEB 4,87	0.56	0.15	<T 0.015	<T 0.010	0.090	<W 0.005	UG 0.0002
FEB 7,87	FEB 6,87	1.74	1.57	0.170	<T 0.010	UG 0.885	0.795	0.1230
FEB 9,87	FEB 8,87	D 0.58	0.16	<T 0.010	<T 0.010	0.025	0.340	D 0.0081
FEB 13,87	FEB 12,87	0.88	0.34	<T 0.020	<W 0.005	0.115	<T 0.005	0.0437
MAR 1,87	FEB 28,87	D 0.44	<T 0.03	<T 0.010	<T 0.005	<T 0.015	0.040	B 0.0052
MAR 3,87	MAR 1,87	0.14	<T 0.04	<T 0.005	<W 0.005	<T 0.010	0.105	0.0162
MAR 4,87	MAR 3,87	*****	*****	*****	*****	*****	*****	*****
MAR 28,87	MAR 27,87	*****	*****	*****	*****	*****	*****	*****
MAR 31,87	MAR 30,87	D 0.44	0.23	D 0.035	<W 0.005	D 0.090	D 0.035	D 0.0389
APR 1,87	MAR 31,87	0.20	<T 0.03	<T 0.005	<W 0.005	<T 0.010	0.035	0.0389
APR 2,87	APR 1,87	0.24	<T 0.10	<T 0.015	<W 0.005	<T 0.015	<W 0.005	0.0427
APR 3,87	APR 2,87	*****	*****	*****	*****	*****	*****	*****
APR 4,87	APR 3,87	0.14	0.26	0.030	<W 0.005	0.125	<W 0.005	0.0562
APR 5,87	APR 4,87	<T 0.04	D 0.38	D 0.025	<W 0.005	D 0.225	<W 0.005	0.0209
APR 6,87	APR 5,87	0.14	0.22	0.030	<W 0.005	0.100	<T 0.015	0.0407
APR 7,87	APR 6,87	0.12	0.08	<T 0.020	<W 0.005	0.035	<W 0.005	0.0316
APR 8,87	APR 7,87	0.12	0.07	<T 0.020	<W 0.005	0.035	0.190	0.0372
APR 13,87	APR 12,87	1.22	0.45	0.170	<T 0.015	0.075	<T 0.005	0.1778
APR 24,87	APR 23,87	0.36	D 0.56	D 0.055	D 0.035	0.050	D 0.180	0.1905
APR 28,87	APR 27,87	0.42	D 1.17	0.110	0.100	D 0.105	0.260	0.0468
APR 30,87	APR 29,87	0.42	0.23	0.080	D 0.030	0.070	D 0.500	D 0.0151
MAY 5,87	MAY 4,87	*****	*****	*****	*****	*****	*****	*****
MAY 12,87	MAY 11,87	1.70	0.30	0.285	0.150	0.090	0.515	0.0251
MAY 15,87	MAY 14,87	0.20	0.10	0.025	0.025	<T 0.015	D 0.060	0.0977



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
MAY 17,87	MAY 16,87	900 900	2300 500	1	2.5	1	69003	2	1	97	C
MAY 21,87	MAY 20,87	900 900	700 900	1	0.4	1	69004	2	1	81	C
MAY 23,87	MAY 22,87	600 900	700 1000	1	3.7	1	69005	2	1	107	C
MAY 25,87	MAY 24,87	800 800	2000 200	1	6.7	1	91699	2	1	94	C
MAY 27,87	MAY 26,87	800 700	2800 2400	1	6.6	1	69006	2	1	100	C
MAY 28,87	MAY 27,87	700 630	1000 1200	1	3.6	1	69007	2	1	100	C
MAY 29,87	MAY 28,87	630 630	1700 1900	1	33.0	9	69008	2	1	102	C
JUN 1,87	MAY 31,87	630 630	1530 2000	1	21.8	1	69009	2	1	99	C
JUN 3,87	JUN 2,87	800 900	100 500	1	0.5	1	54130	2	1	81	C
JUN 4,87	JUN 3,87	900 900	1100 1500	1	7.6	1	54131	2	1	101	C
JUN 6,87	JUN 5,87	900 900	1400 1900	1	5.5	1	54132	2	1	97	BC
JUN 8,87	JUN 7,87	800 830	1900 2400	1	10.7	1	54133	2	1	111	C
JUN 9,87	JUN 8,87	830 900	830 1000	1	7.5	1	54134	2	1	29	C
JUN 10,87	JUN 9,87	900 900	1100 2400	1	11.6	1	54135	2	1	100	C
JUN 12,87	JUN 11,87	900 1000	1900 600	1	8.8	1	54136	2	1	102	C
JUN 13,87	JUN 12,87	1000 900	100 700	1	3.0	1	54137	2	1	107	C
JUN 17,87	JUN 16,87	800 600	1400 1600	1	0.4	1	54138	2	1	117	C
JUN 23,87	JUN 22,87	700 600	1400 100	1	23.0	9	54139	2	1	8	C
JUN 27,87	JUN 26,87	800 900	1000 2000	1	13.6	1	54140	2	1	100	C
JUN 29,87	JUN 28,87	900 900	1300 1500	1	0.7	1	54141	2	1	75	C
JUN 30,87	JUN 29,87	900 900	1830 2000	1	2.3	*	54142	2	1	90	EG
JUL 3,87	JUL 2,87	900 900	2030 500	1	14.6	1	54143	2	1	103	EG
JUL 4,87	JUL 3,87	900 900	2130 2400	1	3.4	1	54144	2	1	97	EG
JUL 15,87	JUL 14,87	800 1000	1200 1700	1	14.6	1	54145	2	1	106	C
JUL 19,87	JUL 18,87	800 800	1800 2000	1	36.6	1	54146	2	1	83	C
JUL 25,87	JUL 24,87	800 900	1800 1900	1	3.0	1	54147	2	1	102	C
AUG 3,87	AUG 2,87	700 630	1600 200	1	13.7	1	54148	2	1	104	C
AUG 5,87	AUG 4,87	800 900	1400 1700	1	8.0	1	54149	2	1	92	C
AUG 10,87	AUG 9,87	800 630	1200 1500	1	3.8	1	54150	2	1	101	C
AUG 18,87	AUG 17,87	800 800	2100 2120	1	2.8	1	54151	2	1	100	C
AUG 20,87	AUG 19,87	800 800	400 1700	1	3.2	1	54152	2	1	101	C
AUG 22,87	AUG 21,87	800 800	630 800	1	6.2	1	54153	2	1	97	C
AUG 23,87	AUG 22,87	800 800	800 1600	1	0.4	1	54154	2	1	50	C
AUG 26,87	AUG 25,87	800 1800	1200 1230	1	0.8	1	54155	2	1	70	C
AUG 29,87	AUG 28,87	800 800	2115 800	1	****	1	54156	2	1	****	M
SEP 1,87	AUG 31,87	700 630	1330 1500	1	****	1	54157	2	1	****	M
SEP 9,87	AUG 8,87	600 900	700 1700	1	62.8	1	54158	2	1	104	M
SEP 10,87	SEP 9,87	900 900	1700 1900	1	1.4	1	54159	2	1	76	M
SEP 12,87	SEP 11,87	800 630	2400 600	1	****	1	54160	2	1	****	M
SEP 13,87	SEP 12,87	630 630	1000 600	1	****	1	54161	2	1	****	M



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
MAY 17,87	MAY 16,87	156.0	U 60.8	U 3.81	U 3.88	*****	U 0.5010	U 4.45	U 0.85
MAY 21,87	MAY 20,87	21.0	75.1	*****	3.72	*****	0.2260	7.55	1.05
MAY 23,87	MAY 22,87	255.0	> 100.0	3.35	3.50	*****	0.3950	11.50	1.80
MAY 25,87	MAY 24,87	404.0	> 100.0	3.62	3.66	*****	0.2680	10.75	1.43
MAY 27,87	MAY 26,87	427.0	D 77.6	3.51	3.70	*****	0.2220	7.45	0.60
MAY 28,87	MAY 27,87	232.0	86.9	D 3.51	3.65	*****	D 0.3530	6.65	1.25
MAY 29,87	MAY 28,87	2172.0	24.5	3.93	4.23	*****	0.0832	2.25	0.25
JUN 1,87	MAY 31,87	1396.0	20.4	3.55	4.32	*****	0.0632	1.75	0.15
JUN 3,87	JUN 2,87	26.0	50.1	*****	3.90	*****	0.1810	6.45	0.10
JUN 4,87	JUN 3,87	493.0	82.3	3.56	3.66	*****	0.2340	D 6.80	0.85
JUN 6,87	JUN 5,87	344.0	11.3	4.53	4.65	*****	0.0361	0.85	0.10
JUN 8,87	JUN 7,87	763.0	32.2	4.15	4.21	*****	D 0.0827	3.30	0.70
JUN 9,87	JUN 8,87	141.0	16.9	4.39	4.45	*****	0.0557	1.25	0.30
JUN 10,87	JUN 9,87	744.0	6.1	D 4.75	D 4.89	*****	D 0.0250	0.65	<T 0.05
JUN 12,87	JUN 11,87	580.0	58.8	3.75	3.79	*****	0.1590	5.45	0.70
JUN 13,87	JUN 12,87	206.0	24.0	4.20	4.26	*****	0.0654	2.20	0.45
JUN 17,87	JUN 16,87	30.0	35.3	*****	4.33	*****	0.0778	5.90	0.60
JUN 23,87	JUN 22,87	125.0	49.6	4.02	3.91	*****	0.1460	5.05	0.85
JUN 27,87	JUN 26,87	879.0	73.6	3.70	3.67	*****	0.2100	6.95	0.65
JUN 29,87	JUN 28,87	34.0	27.1	*****	4.17	*****	0.0822	1.70	0.60
JUN 30,87	JUN 29,87	133.0	*****	3.56	*****	*****	*****	*****	*****
JUL 3,87	JUL 2,87	970.0	*****	3.88	*****	*****	*****	*****	*****
JUL 4,87	JUL 3,87	212.0	*****	3.66	*****	*****	*****	*****	*****
JUL 15,87	JUL 14,87	998.0	16.0	4.23	4.42	*****	0.0624	2.10	0.18
JUL 19,87	JUL 18,87	1964.0	32.0	4.14	4.25	*****	0.0998	4.15	0.36
JUL 25,87	JUL 24,87	198.0	75.0	3.70	3.87	*****	0.1890	10.50	0.91
AUG 3,87	AUG 2,87	920.0	68.0	D 3.72	3.83	*****	0.2050	7.55	0.62
AUG 5,87	AUG 4,87	475.0	25.0	4.23	4.30	*****	0.0872	2.25	0.46
AUG 10,87	AUG 9,87	248.0	21.0	4.19	4.33	*****	0.0710	2.80	0.09
AUG 18,87	AUG 17,87	180.0	52.0	3.91	4.00	*****	0.1400	6.05	0.84
AUG 20,87	AUG 19,87	208.0	42.0	4.45	4.42	*****	D 0.0646	5.95	0.91
AUG 22,87	AUG 21,87	386.0	21.0	4.60	D 4.71	*****	D 0.0385	2.60	0.28
AUG 23,87	AUG 22,87	13.0	7.0	*****	4.61	*****	0.0664	1.30	0.19
AUG 26,87	AUG 25,87	36.0	!IS *****	*****	5.52	*****	0.0209	!IS *****	!IS *****
AUG 29,87	AUG 28,87	1197.0	8.5	4.57	4.68	*****	0.0409	1.15	0.21
SEP 1,87	AUG 31,87	396.0	D 50.0	3.94	4.00	*****	0.1350	5.25	0.74
SEP 9,87	SEP 8,87	4221.0	5.0	4.78	4.96	*****	0.0285	0.75	LG 0.07
SEP 10,87	SEP 9,87	69.0	42.0	*****	4.09	*****	0.1200	5.50	0.34
SEP 12,87	SEP 11,87	480.0	> 100.0	3.49	3.57	*****	0.3500	13.60	1.96
SEP 13,87	SEP 12,87	540.0	86.0	3.65	3.73	*****	0.2380	8.40	0.99

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
MAY 17,87	MAY 16,87	U 1.10	U 3.00	U 0.185	U 0.035	U 0.030	U 0.145	U 0.1318
MAY 21,87	MAY 20,87	1.04	0.20	0.170	0.030	0.050	0.060	0.1905
MAY 23,87	MAY 22,87	0.58	0.45	0.155	0.050	0.135	0.395	0.3162
MAY 25,87	MAY 24,87	0.54	0.34	0.055	0.090	0.060	1.050	0.2188
MAY 27,87	MAY 26,87	0.10	0.10	<T 0.010	<T 0.010	0.030	D 0.165	0.1995
MAY 28,87	MAY 27,87	0.38	D 0.85	0.070	0.035	D 0.085	0.350	0.2239
MAY 29,87	MAY 28,87	<T 0.04	0.10	<T 0.005	0.080	<T 0.025	0.190	0.0589
JUN 1,87	MAY 31,87	0.10	<T 0.05	<T 0.005	<T 0.010	<T 0.020	B 0.035	0.0479
JUN 3,87	JUN 2,87	0.68	0.20	0.110	0.080	0.160	<W 0.005	0.1259
JUN 4,87	JUN 3,87	<T 0.06	0.20	<T 0.010	0.040	0.025	D 0.115	0.2188
JUN 6,87	JUN 5,87	0.10	<T 0.05	<T 0.010	0.030	<T 0.005	<W 0.005	0.0224
JUN 8,87	JUN 7,87	0.50	0.10	0.065	0.035	<T 0.020	0.595	0.0617
JUN 9,87	JUN 8,87	0.18	0.10	<T 0.020	<T 0.015	<T 0.020	0.125	0.0355
JUN 10,87	JUN 9,87	<W 0.02	<W 0.01	<W 0.005	<W 0.005	<T 0.015	<T 0.010	D 0.0129
JUN 12,87	JUN 11,87	0.20	0.15	<T 0.020	0.055	0.025	D 0.220	0.1622
JUN 13,87	JUN 12,87	0.30	<T 0.05	0.035	0.025	0.065	0.210	0.0550
JUN 17,87	JUN 16,87	!IS *****	0.90	!IS *****	!IS *****	!IS *****	<W 0.005	0.0468
JUN 23,87	JUN 22,87	1.08	0.90	0.210	<W 0.005	0.040	<T 0.010	0.1230
JUN 27,87	JUN 26,87	0.12	0.90	<T 0.020	<T 0.010	0.025	0.270	0.2138
JUN 29,87	JUN 28,87	!IS *****	0.90	!IS *****	!IS *****	!IS *****	<T 0.025	0.0676
JUN 30,87	JUN 29,87	*****	*****	*****	*****	*****	*****	*****
JUL 3,87	JUL 2,87	*****	*****	*****	*****	*****	*****	*****
JUL 4,87	JUL 3,87	*****	*****	*****	*****	*****	*****	*****
JUL 15,87	JUL 14,87	0.14	<T 0.01	<T 0.025	<T 0.010	<T 0.015	<T 0.010	0.0380
JUL 19,87	JUL 18,87	0.34	0.13	0.035	<T 0.005	<T 0.020	0.385	0.0562
JUL 25,87	JUL 24,87	1.38	0.27	0.180	0.045	0.040	0.950	0.1349
AUG 3,87	AUG 2,87	0.10	0.17	<T 0.020	<T 0.010	<T 0.015	0.435	0.1479
AUG 5,87	AUG 4,87	0.18	0.14	<T 0.020	<T 0.025	<T 0.010	0.210	0.0501
AUG 10,87	AUG 9,87	0.14	0.09	0.025	0.030	<W 0.005	<W 0.005	0.0468
AUG 18,87	AUG 17,87	0.84	0.24	0.185	0.025	0.055	0.325	0.1000
AUG 20,87	AUG 19,87	0.98	!CR *****	0.125	0.030	<T 0.020	0.165	0.0380
AUG 22,87	AUG 21,87	<T 0.06	!CR *****	<T 0.005	<T 0.015	<W 0.005	LG 0.040	D 0.0195
AUG 23,87	AUG 22,87	0.28	0.14	0.025	<T 0.020	0.030	<T 0.015	0.0245
AUG 26,87	AUG 25,87	0.76	!IS *****	0.155	0.035	0.025	<T 0.010	0.0030
AUG 29,87	AUG 28,87	<T 0.08	<T 0.01	<T 0.015	<T 0.010	<W 0.005	LG 0.030	0.0209
SEP 1,87	AUG 31,87	0.24	0.31	D 0.040	0.040	<T 0.010	D 0.470	0.1000
SEP 9,87	SEP 8,87	<T 0.02	<W 0.01	<W 0.005	<T 0.005	<T 0.015	LG 0.035	0.0110
SEP 10,87	SEP 9,87	0.22	0.15	<T 0.020	<T 0.005	0.035	0.295	0.0813
SEP 12,87	SEP 11,87	0.32	0.35	0.050	0.060	0.035	1.450	0.2692
SEP 13,87	SEP 12,87	<T 0.06	0.25	<T 0.005	<T 0.010	0.030	0.235	0.1862

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
SEP 14,87	SEP 13,87	630 630	1100 1600	1	****	1	54162	2	1	****	
SEP 18,87	SEP 17,87	800 900	1700 900	1	****	1	54163	2	1	****	
SEP 19,87	SEP 18,87	900 630	900 2100	1	8.4	1	54164	2	1	94	
SEP 20,87	SEP 19,87	630 630	1000 500	1	20.6	1	54165	2	1	93	M
SEP 23,87	SEP 22,87	630 630	2300 500	1	2.6	1	54166	2	1	97	M
SEP 24,87	SEP 23,87	630 630	2300 500	1	3.8	1	54167	2	1	95	
SEP 28,87	SEP 27,87	630 730	2200 400	1	2.4	1	54168	2	1	95	
SEP 30,87	SEP 29,87	700 615	2000 400	1	15.7	1	54169	2	1	96	
OCT 3,87	OCT 2,87	700 900	1000 2100	1	24.9	1	54170	2	1	100	
OCT 7,87	OCT 6,87	800 900	1900 600	1	11.2	1	54171	2	1	93	
OCT 8,87	OCT 7,87	900 630	1400 600	1	4.6	1	54172	2	1	83	M
OCT 9,87	OCT 8,87	630 900	800 1600	1	2.0	1	54173	2	1	72	
OCT 10,87	OCT 9,87	900 800	1000 1200	1	0.4	*	54174	2	1	****	E N
OCT 18,87	OCT 17,87	800 900	1900 200	1	2.0	1	54175	2	1	90	
OCT 21,87	OCT 20,87	800 1000	1800 2300	1	9.3	1	54176	2	1	101	
OCT 23,87	OCT 22,87	800 600	100 600	1	5.0	1	54177	2	1	185	N
OCT 24,87	OCT 23,87	600 700	600 1400	1	6.0	2	54178	2	1	60	
OCT 25,87	OCT 24,87	700 800	2300 500	1	7.4	2	54179	2	1	120	N
OCT 28,87	OCT 27,87	800 800	1400 2300	1	7.2	2	54180	2	1	114	
OCT 31,87	OCT 30,87	800 800	1400 2200	1	1.7	2	54181	2	1	180	N
NOV 3,87	NOV 2,87	800 1000	200 1000	1	4.0	2	54182	2	1	U 119	G
NOV 4,87	NOV 3,87	1000 1000	1000 1300	1	3.0	2	54183	2	1	112	
NOV 6,87	NOV 5,87	600 900	1700 2400	3	8.7	2	54184	2	1	117	C
NOV 7,87	NOV 6,87	900 1000	2000 500	2	1.8	2	54185	2	1	62	HCM
NOV 9,87	NOV 8,87	500 1000	600 400	1	19.8	2	54186	2	1	100	
NOV 18,87	NOV 17,87	600 900	630 2300	1	19.0	2	54187	2	1	U 68	G
NOV 20,87	NOV 19,87	900 900	100 600	1	0.3	2	54189	2	1	249	N
NOV 26,87	NOV 25,87	900 900	1000 100	3	33.4	2	54190	2	1	****	G
NOV 30,87	NOV 29,87	600 900	800 400	1	54.4	2	54191	2	1	****	G
DEC 2,87	DEC 1,87	700 630	1600 630	2	1.0	2	54193	2	1	****	EIK
DEC 4,87	DEC 3,87	630 630	630 630	2	0.9	2	54194	2	1	71	
DEC 5,87	DEC 4,87	630 630	630 1000	2	1.0	2	54195	2	1	****	EIK
DEC 9,87	DEC 8,87	800 800	1000 300	1	0.3	2	54196	2	1	119	
DEC 11,87	DEC 10,87	800 700	1600 400	1	4.8	2	54197	2	1	****	GE
DEC 17,87	DEC 15,87	630 630	1200 1500	3	36.4	2	54198	2	1	88	Y2

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
SEP 14,87	SEP 13,87	471.0	D 46.0	3.94	4.05	*****	0.1280	D 4.70	0.68
SEP 18,87	SEP 17,87	56.0	86.0	*****	3.82	*****	0.2090	8.20	1.10
SEP 19,87	SEP 18,87	507.0	IR *****	4.56	4.69	*****	0.0419	1.35	0.10
SEP 20,87	SEP 19,87	1238.0	7.0	4.67	4.82	*****	0.0338	0.70	0.12
SEP 23,87	SEP 22,87	162.0	18.0	4.49	4.50	*****	0.0574	1.70	0.57
SEP 24,87	SEP 23,87	233.0	13.0	4.51	4.57	*****	0.0507	1.70	<W *****
SEP 28,87	SEP 27,87	147.0	48.0	D 3.99	4.09	*****	0.1270	4.85	1.00
SEP 30,87	SEP 29,87	975.0	33.0	4.13	4.23	*****	0.0975	3.40	0.51
OCT 3,87	OCT 2,87	1605.0	15.0	4.52	4.67	*****	0.0466	D 2.05	0.34
OCT 7,87	OCT 6,87	671.0	36.0	4.15	4.16	*****	0.1050	2.80	0.71
OCT 8,87	OCT 7,87	246.0	19.0	4.31	D 4.41	*****	D 0.0649	1.80	0.38
OCT 9,87	OCT 8,87	93.0	IR *****	4.54	4.69	*****	0.0414	1.25	0.08
OCT 10,87	OCT 9,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 18,87	OCT 17,87	116.0	89.0	3.62	3.64	*****	0.2670	6.70	2.20
OCT 21,87	OCT 20,87	608.0	65.0	3.76	3.78	*****	0.2010	5.35	1.60
OCT 23,87	OCT 22,87	596.0	31.0	4.03	4.09	*****	0.1030	2.35	0.79
OCT 24,87	OCT 23,87	233.0	40.0	3.87	4.02	*****	0.1190	3.05	1.23
OCT 25,87	OCT 24,87	571.0	60.0	3.73	3.83	*****	0.1780	4.80	1.57
OCT 28,87	OCT 27,87	527.0	22.0	4.07	4.22	*****	0.0823	1.50	0.57
OCT 31,87	OCT 30,87	197.0	70.0	3.72	3.79	*****	0.1960	3.60	2.80
NOV 3,87	NOV 2,87	307.0	69.0	3.68	3.75	*****	0.2080	5.60	1.30
NOV 4,87	NOV 3,87	216.0	42.0	3.89	4.00	*****	0.1270	4.45	0.82
NOV 6,87	NOV 5,87	658.0	7.0	4.53	4.70	*****	0.0384	0.95	0.20
NOV 7,87	NOV 6,87	72.0	<T 0.5	*****	UG 5.49	*****	0.0183	<T 0.20	<T 0.01
NOV 9,87	NOV 8,87	1271.0	26.0	4.01	4.22	*****	0.0889	1.95	0.73
NOV 18,87	NOV 17,87	830.0	9.0	4.43	4.68	*****	0.0383	0.90	0.25
NOV 20,87	NOV 19,87	48.0	83.0	*****	3.73	*****	0.2370	3.40	3.00
NOV 26,87	NOV 25,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 30,87	NOV 29,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 2,87	DEC 1,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 4,87	DEC 3,87	41.0	40.0	*****	4.11	*****	0.1190	1.10	1.08
DEC 5,87	DEC 4,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 9,87	DEC 8,87	23.0	21.0	*****	4.41	*****	0.0804	1.50	0.38
DEC 11,87	DEC 10,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 17,87	DEC 15,87	2066.0	19.5	*****	4.39	*****	0.0645	1.15	0.50

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : CHARLESTON LAKE/DAILY/AEROCHEM #11

PAGE : 9

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
SEP 14,87	SEP 13,87	<T 0.08		<T 0.010	<T 0.015	<T 0.015	0.440	0.0891
SEP 18,87	SEP 17,87	0.24	UG 1.86	<T 0.045	<W 0.005	<T 0.050	!IS *****	0.1514
SEP 19,87	SEP 18,87	<T 0.04	<W *****	<T 0.010	<T 0.010	<T 0.015	0.055	0.0204
SEP 20,87	SEP 19,87	<W 0.02	<W *****	<W 0.005	<T 0.010	<T 0.015	<T 0.010	0.0151
SEP 23,87	SEP 22,87	0.44	0.13	0.040	<T 0.020	<T 0.010	0.070	0.0316
SEP 24,87	SEP 23,87	<T 0.08	0.11	<T 0.015	0.045	<T 0.020	LG 0.020	0.0269
SEP 28,87	SEP 27,87	0.82	0.25	0.095	0.090	0.025	0.370	0.0813
SEP 30,87	SEP 29,87	0.22	0.14	<T 0.020	<T 0.020	0.030	0.260	0.0589
OCT 3,87	OCT 2,87	0.42	0.11	0.035	<T 0.025	<T 0.025	D 0.190	0.0214
OCT 7,87	OCT 6,87	0.14	0.13	<T 0.010	0.035	<T 0.005	0.225	0.0692
OCT 8,87	OCT 7,87	<T 0.04	0.15	<T 0.005	<T 0.025	<W 0.005	0.075	D 0.0389
OCT 9,87	OCT 8,87	<T 0.06	<W *****	<T 0.005	0.030	0.030	<W 0.005	0.0204
OCT 10,87	OCT 9,87	*****	*****	*****	*****	*****	*****	*****
OCT 18,87	OCT 17,87	0.42	0.35	0.060	0.080	0.055	0.535	0.2291
OCT 21,87	OCT 20,87	0.22	0.26	0.040	0.085	0.025	0.735	0.1660
OCT 23,87	OCT 22,87	<T 0.08	0.10	<T 0.010	<T 0.020	<T 0.005	0.275	0.0813
OCT 24,87	OCT 23,87	0.34	0.17	0.060	0.060	0.025	0.465	0.0955
OCT 25,87	OCT 24,87	0.46	0.27	0.050	0.065	0.045	0.505	0.1479
OCT 28,87	OCT 27,87	<T 0.08	0.08	<T 0.010	<T 0.005	<T 0.015	0.070	0.0603
OCT 31,87	OCT 30,87	1.10	0.58	0.175	0.040	0.035	0.545	0.1622
NOV 3,87	NOV 2,87	0.22	0.45	0.035	0.030	0.045	0.240	0.1778
NOV 4,87	NOV 3,87	0.20	0.22	0.030	0.040	0.060	0.495	0.1000
NOV 6,87	NOV 5,87	<T 0.06	0.05	<W 0.005	0.030	<W 0.005	0.135	0.0200
NOV 7,87	NOV 6,87	<T 0.10	<T 0.03	<T 0.010	<T 0.015	<T 0.020	<W 0.005	UG 0.0032
NOV 9,87	NOV 8,87	0.12	0.25	<T 0.005	0.140	<T 0.015	0.335	0.0603
NOV 18,87	NOV 17,87	0.14	0.35	0.040	0.040	0.185	0.055	0.0209
NOV 20,87	NOV 19,87	0.94	0.49	0.160	0.035	0.070	0.415	0.1862
NOV 26,87	NOV 25,87	*****	*****	*****	*****	*****	*****	*****
NOV 30,87	NOV 29,87	*****	*****	*****	*****	*****	*****	*****
DEC 2,87	DEC 1,87	*****	*****	*****	*****	*****	*****	*****
DEC 4,87	DEC 3,87	!IS *****	0.46	!IS *****	!IS *****	!IS *****	0.180	0.0776
DEC 5,87	DEC 4,87	*****	*****	*****	*****	*****	*****	*****
DEC 9,87	DEC 8,87	!IS *****	0.32	!IS *****	!IS *****	!IS *****	<T 0.020	0.0389
DEC 11,87	DEC 10,87	*****	*****	*****	*****	*****	*****	*****
DEC 17,87	DEC 15,87	<T 0.06	0.06	<T 0.005	<T 0.010	<T 0.015	0.100	0.0407

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAILTON/DAILY/AEROCHEM

#10

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 3,87	JAN 2,87	800 800	1400 2100	2	5.8	2	91654	2	1	****	IKE
JAN 10,87	JAN 9,87	800 800	2100 700	2	4.8	2	91656	2	1	94	
JAN 13,87	JAN 12,87	800 800	900 1500	2	2.5	2	91658	2	1	41	N
JAN 17,87	JAN 16,87	800 800	1000 1600	2	2.2	2	91660	2	1	122	N
JAN 19,87	JAN 18,87	800 800	1000 1630	2	9.6	2	91662	2	1	34	N
JAN 21,87	JAN 20,87	800 800	****	2	1.6	2	91664	2	1	40	N
JAN 23,87	JAN 22,87	800 800	1500 2100	2	10.1	2	91666	2	1	41	N
JAN 31,87	JAN 23,87	800 800	800 1000	2	11.8	2	91669	2	1	33	NZ
FEB 3,87	FEB 2,87	800 800	400 800	2	1.6	2	91671	2	1	99	C
FEB 5,87	FEB 3,87	800 800	1800 2030	2	2.5	2	91673	2	1	81	Y2
FEB 9,87	FEB 8,87	800 800	1400 2200	2	21.4	2	54119	2	1	56	
FEB 11,87	FEB 10,87	800 800	800 1030	2	0.2	2	91676	2	1	187	N
MAR 1,87	FEB 28,87	800 800	1200 800	1	18.1	2	57071	2	1	89	
MAR 2,87	MAR 1,87	800 800	800 600	1	19.8	2	57073	2	1	91	
MAR 26,87	MAR 25,87	800 800	1400 100	1	5.5	2	57075	2	1	148	NT
MAR 31,87	MAR 30,87	800 800	1200 800	1	29.2	2	57077	2	1	100	T
APR 1,87	MAR 31,87	800 800	800 1500	3	14.2	2	57079	2	1	57	
APR 3,87	APR 1,87	800 800	****	2	7.2	2	57081	2	1	53	Y2
APR 4,87	APR 3,87	800 800	2400 800	1	9.2	2	57083	2	1	71	
APR 5,87	APR 4,87	800 800	800 600	1	16.6	2	57085	2	1	127	N
APR 11,87	APR 5,87	800 800	****	1	2.2	2	94360	2	1	262	NZ
APR 15,87	APR 14,87	800 800	200 500	1	****	2	94358	2	1	****	P
APR 24,87	APR 23,87	800 800	1800 100	1	12.6	2	94356	2	1	108	
APR 28,87	APR 27,87	800 800	1200 800	1	4.3	2	91686	2	1	92	
APR 29,87	APR 28,87	800 800	800 900	1	0.5	2	48487	2	1	****	FE
APR 30,87	APR 29,87	800 800	1100 1500	1	5.1	1	91689	2	1	103	JH
MAY 11,87	MAY 10,87	800 800	530 800	1	1.0	1	91690	2	1	****	E
MAY 12,87	MAY 11,87	800 800	800 500	1	4.2	1	91693	2	1	101	
MAY 15,87	MAY 14,87	800 800	1800 200	1	14.6	1	91694	2	1	96	
MAY 17,87	MAY 16,87	800 800	2300 400	1	2.0	1	91696	2	1	77	
MAY 27,87	MAY 26,87	800 800	1800 2300	1	4.9	1	91702	2	1	97	TC
MAY 28,87	MAY 27,87	800 800	1000 600	1	3.8	1	91704	2	1	98	
MAY 29,87	MAY 28,87	800 800	1650 1800	1	14.7	1	91706	2	1	****	E
JUN 1,87	MAY 31,87	800 800	1700 1830	1	6.6	1	91708	2	1	101	N
JUN 2,87	JUN 1,87	800 800	245 430	1	14.1	1	91710	2	1	98	T
JUN 4,87	JUN 3,87	800 800	930 1600	1	12.7	1	91712	2	1	93	
JUN 8,87	JUN 7,87	800 800	500 1200	1	6.2	1	91714	2	1	102	
JUN 9,87	JUN 8,87	800 800	830 1030	1	7.4	1	91716	2	1	90	J
JUN 10,87	JUN 9,87	800 800	1000 1800	1	4.2	1	91718	2	1	94	
JUN 12,87	JUN 11,87	800 800	1900 2400	1	5.7	1	91720	2	1	92	



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAILTON/DAILY/AEROCHEM

#10

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 3,87	JAN 2,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 10,87	JAN 9,87	290.0	49.7	3.94	4.10	*****	0.1140	2.65	1.26
JAN 13,87	JAN 12,87	66.0	51.1	*****	4.09	*****	0.1200	4.20	0.89
JAN 17,87	JAN 16,87	173.0	> 100.0	3.73	3.77	*****	0.2290	4.75	2.75
JAN 19,87	JAN 18,87	210.0	22.6	4.37	4.47	*****	0.0606	1.25	0.55
JAN 21,87	JAN 20,87	42.0	68.4	*****	3.92	*****	0.1660	2.85	1.68
JAN 23,87	JAN 22,87	268.0	14.0	4.55	4.60	*****	0.0453	LG 0.30	0.41
JAN 31,87	JAN 23,87	254.0	50.5	4.02	4.01	*****	0.1310	3.55	1.08
FEB 3,87	FEB 2,87	102.0	5.6	*****	4.08	*****	0.1160	3.40	1.99
FEB 5,87	FEB 3,87	131.0	15.2	4.69	4.76	*****	0.0391	1.25	0.32
FEB 9,87	FEB 8,87	771.0	37.1	4.24	4.28	*****	0.0815	2.80	1.12
FEB 11,87	FEB 10,87	24.0	23.9	*****	4.39	*****	0.0661	0.95	0.77
MAR 1,87	FEB 28,87	1042.0	14.5	*****	4.53	*****	0.0409	1.20	0.28
MAR 2,87	MAR 1,87	1163.0	13.5	*****	4.52	*****	0.0409	1.05	0.21
MAR 26,87	MAR 25,87	522.0	29.5	*****	4.19	*****	0.0435	2.20	0.66
MAR 31,87	MAR 30,87	1889.0	25.5	*****	4.24	*****	0.0513	2.30	0.37
APR 1,87	MAR 31,87	521.0	13.0	*****	4.71	*****	0.0732	1.70	0.11
APR 3,87	APR 1,87	246.0	29.5	*****	4.24	*****	0.0721	2.60	0.65
APR 4,87	APR 3,87	420.0	9.5	*****	4.72	*****	0.0291	0.65	0.14
APR 5,87	APR 4,87	1354.0	9.5	*****	4.71	*****	0.0295	0.65	0.14
APR 11,87	APR 5,87	370.0	10.1	4.79	4.87	*****	0.0299	1.00	0.16
APR 15,87	APR 14,87	81.0	51.5	4.18	4.12	*****	0.1040	6.45	1.53
APR 24,87	APR 23,87	876.0	54.8	3.99	3.88	*****	0.1370	5.65	0.87
APR 28,87	APR 27,87	254.0	58.2	4.06	4.12	*****	0.1070	4.60	2.41
APR 29,87	APR 28,87	*****	*****	*****	*****	*****	*****	*****	*****
APR 30,87	APR 29,87	338.0	19.0	UG 5.56	UG 6.68	*****	0.0211	3.15	0.52
MAY 11,87	MAY 10,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 12,87	MAY 11,87	273.0	ISM *****	4.51	ISM *****	*****	ISM *****	ISM *****	ISM *****
MAY 15,87	MAY 14,87	901.0	43.8	*****	4.06	*****	0.1170	5.05	0.59
MAY 17,87	MAY 16,87	99.0	47.0	4.39	4.69	*****	0.0540	8.45	1.80
MAY 27,87	MAY 26,87	306.0	> 100.0	3.51	3.51	*****	0.3010	11.95	1.15
MAY 28,87	MAY 27,87	240.0	58.8	3.85	3.87	*****	0.1420	5.80	1.05
MAY 29,87	MAY 28,87	*****	*****	*****	*****	*****	*****	*****	*****
JUN 1,87	MAY 31,87	430.0	15.9	4.51	4.63	*****	0.0386	2.10	0.30
JUN 2,87	JUN 1,87	892.0	57.2	3.92	3.83	*****	0.1450	5.70	0.80
JUN 4,87	JUN 3,87	765.0	86.4	3.73	3.70	*****	0.2290	8.40	1.10
JUN 8,87	JUN 7,87	407.0	23.5	4.46	4.62	*****	0.0480	3.25	0.65
JUN 9,87	JUN 8,87	427.0	16.4	5.28	UG 5.82	*****	0.0243	2.50	0.55
JUN 10,87	JUN 9,87	254.0	12.3	4.49	4.63	*****	0.0397	1.35	<T 0.05
JUN 12,87	JUN 11,87	339.0	65.9	3.80	3.81	*****	0.1730	6.60	0.90

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAILTON/DAILY/AEROCHEM

#10

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 3,87	JAN 2,87	*****	*****	*****	*****	*****	*****	*****
JAN 10,87	JAN 9,87	0.26	0.31	0.030	0.095	0.115	0.570	0.0794
JAN 13,87	JAN 12,87	<T 0.07	0.23	0.045	0.085	0.080	0.775	0.0813
JAN 17,87	JAN 16,87	0.26	0.50	0.035	0.145	0.115	1.650	0.1698
JAN 19,87	JAN 18,87	0.10	0.18	<T 0.015	0.030	0.040	0.300	0.0339
JAN 21,87	JAN 20,87	!IS *****	0.69	!IS *****	!IS *****	!IS *****	0.515	0.1202
JAN 23,87	JAN 22,87	0.10	0.12	<T 0.010	<T 0.015	0.035	<T 0.025	0.0251
JAN 31,87	JAN 23,87	0.16	0.27	<T 0.015	<T 0.025	0.120	0.565	0.0977
FEB 3,87	FEB 2,87	0.78	0.41	0.070	0.075	0.185	1.250	0.0832
FEB 5,87	FEB 3,87	0.16	0.61	<T 0.020	<T 0.020	0.375	0.260	0.0174
FEB 9,87	FEB 8,87	<T 0.08	0.38	<T 0.015	0.025	0.070	1.200	0.0525
FEB 11,87	FEB 10,87	!LA *****	0.26	!LA *****	!LA *****	!LA *****	0.220	0.0407
MAR 1,87	FEB 28,87	<T 0.06	0.10	<T 0.010	<W 0.005	D 0.050	0.170	0.0295
MAR 2,87	MAR 1,87	<T 0.04	<T 0.05	<T 0.005	<W 0.005	<T 0.010	0.090	0.0302
MAR 26,87	MAR 25,87	0.22	0.11	0.025	<W 0.005	0.030	0.275	0.0646
MAR 31,87	MAR 30,87	0.10	0.23	0.025	<T 0.010	0.130	0.240	0.0575
APR 1,87	MAR 31,87	0.18	D 0.21	D 0.025	D 0.125	D 0.205	D 0.115	0.0195
APR 3,87	APR 1,87	0.16	0.15	<T 0.015	<T 0.005	0.035	0.575	0.0575
APR 4,87	APR 3,87	<T 0.02	0.21	<T 0.015	<W 0.005	0.105	0.030	0.0191
APR 5,87	APR 4,87	<T 0.02	0.20	<T 0.015	<T 0.005	0.105	<T 0.020	0.0195
APR 11,87	APR 5,87	0.20	0.06	<T 0.010	<T 0.020	0.050	0.110	0.0135
APR 15,87	APR 14,87	1.50	0.28	0.170	0.085	0.075	1.260	0.0759
APR 24,87	APR 23,87	0.44	0.14	0.045	0.045	0.040	0.460	0.1318
APR 28,87	APR 27,87	1.52	0.43	0.265	0.270	0.330	1.260	0.0759
APR 29,87	APR 28,87	*****	*****	*****	*****	*****	*****	*****
APR 30,87	APR 29,87	0.70	0.07	0.100	0.060	0.060	1.420	UG 0.0002
MAY 11,87	MAY 10,87	*****	*****	*****	*****	*****	*****	*****
MAY 12,87	MAY 11,87	!SM *****	!SM *****	!SM *****	!SM *****	!SM *****	!SM *****	!SM *****
MAY 15,87	MAY 14,87	0.28	D 0.14	0.035	D 0.080	<T 0.025	0.465	0.0871
MAY 17,87	MAY 16,87	1.98	0.31	0.320	0.150	0.075	2.150	0.0204
MAY 27,87	MAY 26,87	0.44	0.25	0.035	0.100	0.055	0.760	0.3090
MAY 28,87	MAY 27,87	0.62	0.25	0.065	0.060	0.050	0.725	0.1349
MAY 29,87	MAY 28,87	*****	*****	*****	*****	*****	*****	*****
JUN 1,87	MAY 31,87	0.16	<T 0.05	<T 0.020	0.065	<T 0.015	0.545	0.0234
JUN 2,87	JUN 1,87	0.26	0.20	0.045	0.045	0.030	0.660	0.1479
JUN 4,87	JUN 3,87	0.18	0.25	<T 0.015	0.040	0.030	0.850	0.1995
JUN 8,87	JUN 7,87	0.54	0.15	0.065	0.110	<T 0.015	0.805	0.0240
JUN 9,87	JUN 8,87	0.44	0.10	0.075	0.055	<T 0.015	0.950	UG 0.0015
JUN 10,87	JUN 9,87	<T 0.06	<W 0.01	<T 0.010	0.030	<T 0.020	0.090	0.0234
JUN 12,87	JUN 11,87	0.48	0.20	0.060	0.110	0.040	0.470	0.1549



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAILTON/DAILY/AEROCHEM

#10

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JUN 29,87	JUN 26,87	800 800	800 1400	1	****	1	91722	2	1	****	Z
JUN 30,87	JUN 29,87	800 800	1100 1400	1	0.6	1	91724	2	1	117	
JUL 3,87	JUL 2,87	800 800	2300 200	1	12.1	1	91726	2	1	104	
JUL 12,87	JUL 3,87	800 800	****	1	5.4	1	91728	2	1	69	Z
JUL 15,87	JUL 14,87	800 800	1200 1330	1	18.2	1	91730	2	1	95	
JUL 19,87	JUL 18,87	800 800	****	1	2.1	1	91735	2	1	83	C
JUL 26,87	JUL 25,87	800 800	****	1	19.8	1	91737	2	1	91	
AUG 3,87	AUG 2,87	800 800	1000 2200	1	7.8	1	91733	2	1	98	
AUG 5,87	AUG 4,87	800 800	1430 1530	1	16.5	1	91739	2	1	101	M
AUG 8,87	AUG 7,87	800 800	1630 1700	1	0.6	1	91742	2	1	****	EK
AUG 10,87	AUG 9,87	800 800	1100 1600	1	6.0	1	91744	2	1	98	
AUG 20,87	AUG 19,87	800 800	1400 1430	1	1.0	1	91745	2	1	68	
AUG 22,87	AUG 21,87	800 800	400 730	1	12.2	1	91747	2	1	95	M
AUG 29,87	AUG 28,87	800 800	2100 300	1	27.8	1	91749	2	1	97	
SEP 1,87	AUG 31,87	800 800	****	1	12.0	1	91751	2	1	97	
SEP 9,87	SEP 8,87	800 800	800 300	1	47.2	1	91753	2	1	100	
SEP 13,87	SEP 12,87	800 800	****	1	12.2	1	91755	2	1	86	
SEP 14,87	SEP 13,87	800 800	****	1	1.3	1	91757	2	1	55	
SEP 20,87	SEP 18,87	800 800	810 2400	1	31.0	1	91759	2	1	92	MY2
SEP 28,87	SEP 27,87	800 800	2130 200	1	7.1	1	91761	2	1	92	
SEP 30,87	SEP 29,87	800 800	1830 200	1	11.0	1	91763	2	1	95	
OCT 1,87	SEP 30,87	800 800	1400 1700	1	5.0	1	91765	2	1	104	H
OCT 3,87	OCT 2,87	800 800	900 2000	1	****	1	91767	2	1	****	
OCT 7,87	OCT 6,87	800 800	1900 800	1	10.6	1	91770	2	1	99	
OCT 8,87	OCT 7,87	800 800	800 945	1	23.8	1	91771	2	1	92	
OCT 9,87	OCT 8,87	800 800	820 900	1	0.2	1	91773	2	1	****	E N
OCT 18,87	OCT 17,87	800 800	1800 2400	1	4.9	1	91775	2	1	62	
OCT 21,87	OCT 20,87	800 800	1700 2400	1	5.0	1	91777	2	1	98	
OCT 25,87	OCT 22,87	800 800	1700 200	1	22.0	1	91780	2	1	97	Y3
OCT 28,87	OCT 27,87	800 800	1400 2100	1	10.0	1	91781	2	1	73	
NOV 4,87	NOV 2,87	800 800	430 1500	1	14.6	1	91783	2	1	84	Y2
NOV 5,87	NOV 4,87	800 800	2000 2100	1	4.4	2	91785	2	1	94	
NOV 8,87	NOV 5,87	800 800	****	3	23.8	1	91787	2	1	85	Y3
NOV 18,87	NOV 17,87	800 800	1100 2400	1	32.6	1	91789	2	1	92	
NOV 19,87	NOV 18,87	800 800	****	1	2.0	1	91791	2	1	70	
NOV 26,87	NOV 25,87	800 800	900 1500	3	****	1	91793	2	1	****	
NOV 30,87	NOV 29,87	800 800	100 2300	1	68.2	1	91795	2	1	98	
DEC 10,87	DEC 9,87	800 800	1700 2300	3	11.6	1	91797	2	1	76	
DEC 13,87	DEC 12,87	800 800	900 1600	1	6.8	1	91799	2	1	81	
DEC 16,87	DEC 15,87	800 800	1030 2300	3	27.0	2	91801	2	1	U 23	QF

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAILTON/DAILY/AEROCHEM

#10

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JUN 29,87	JUN 26,87	1016.0	81.8	3.78	3.74	*****	0.2070	9.15	1.10
JUN 30,87	JUN 29,87	45.0	> 100.0	*****	3.80	*****	0.2020	16.10	2.95
JUL 3,87	JUL 2,87	810.0	49.0	3.95	3.99	*****	0.1410	3.65	0.78
JUL 12,87	JUL 3,87	239.0	100.0	3.65	3.69	*****	0.2750	11.60	1.16
JUL 15,87	JUL 14,87	1117.0	D 45.0	4.29	4.36	*****	0.0692	2.45	0.31
JUL 19,87	JUL 18,87	112.0	50.0	4.27	4.31	*****	0.0853	10.00	0.99
JUL 26,87	JUL 25,87	1165.0	22.0	4.42	4.52	*****	0.3200	3.95	0.42
AUG 3,87	AUG 2,87	493.0	100.0	3.63	3.67	*****	0.2890	10.90	1.20
AUG 5,87	AUG 4,87	1074.0	34.0	4.11	4.14	*****	0.1010	3.80	0.95
AUG 8,87	AUG 7,87	*****	*****	*****	*****	*****	*****	*****	*****
AUG 10,87	AUG 9,87	380.0	21.0	4.25	4.33	*****	0.0721	2.55	0.17
AUG 20,87	AUG 19,87	44.0	38.0	*****	UG 6.72	*****	0.0206	D 9.30	1.41
AUG 22,87	AUG 21,87	746.0	15.0	4.35	4.50	*****	0.0586	2.00	0.26
AUG 29,87	AUG 28,87	1744.0	5.0	4.90	5.04	*****	0.0298	0.65	0.11
SEP 1,87	AUG 31,87	751.0	45.0	3.98	4.04	*****	0.1280	5.35	0.55
SEP 9,87	SEP 8,87	3042.0	5.0	4.82	4.94	*****	0.0299	0.75	LG 0.07
SEP 13,87	SEP 12,87	675.0	84.0	3.70	3.76	*****	0.2370	9.35	0.97
SEP 14,87	SEP 13,87	46.0	> 100.0	*****	3.64	*****	0.3070	> 10.00	1.94
SEP 20,87	SEP 18,87	1830.0	13.0	4.50	4.71	*****	0.0432	1.20	0.17
SEP 28,87	SEP 27,87	419.0	14.0	4.89	4.93	*****	0.0335	2.35	0.45
SEP 30,87	SEP 29,87	674.0	46.0	4.00	4.08	*****	0.1200	5.10	0.58
OCT 1,87	SEP 30,87	335.0	8.0	4.84	5.04	*****	0.0288	1.15	0.26
OCT 3,87	OCT 2,87	747.0	24.0	4.41	4.51	*****	0.0581	3.35	0.49
OCT 7,87	OCT 6,87	673.0	38.0	4.00	4.13	*****	0.1080	2.90	0.83
OCT 8,87	OCT 7,87	1411.0	16.0	4.38	4.47	*****	0.0565	1.80	0.24
OCT 9,87	OCT 8,87	*****	!RE *****	*****	!RE *****	*****	!RE *****	!RE *****	!RE *****
OCT 18,87	OCT 17,87	197.0	91.0	3.65	3.74	*****	0.2390	7.80	2.20
OCT 21,87	OCT 20,87	317.0	93.0	3.62	3.74	*****	0.2410	7.10	2.22
OCT 25,87	OCT 22,87	1371.0	55.0	*****	4.02	*****	0.1370	4.10	1.24
OCT 28,87	OCT 27,87	469.0	34.5	*****	4.20	*****	0.0970	2.55	0.74
NOV 4,87	NOV 2,87	795.0	58.0	3.96	4.00	*****	0.1440	4.80	1.20
NOV 5,87	NOV 4,87	266.0	15.0	4.54	4.71	*****	0.0463	1.60	0.46
NOV 8,87	NOV 5,87	1310.0	25.5	*****	4.49	*****	0.0648	2.70	0.64
NOV 18,87	NOV 17,87	1927.0	16.0	4.40	4.59	*****	0.0491	1.40	0.31
NOV 19,87	NOV 18,87	91.0	33.0	*****	4.44	*****	0.0729	3.90	1.75
NOV 26,87	NOV 25,87	474.0	8.0	*****	4.81	*****	0.0406	0.90	0.25
NOV 30,87	NOV 29,87	4296.0	9.5	*****	4.76	*****	0.0415	0.90	0.25
DEC 10,87	DEC 9,87	572.0	26.0	*****	4.28	*****	0.0808	2.50	0.35
DEC 13,87	DEC 12,87	354.0	37.0	*****	4.21	*****	0.0973	3.00	1.00
DEC 16,87	DEC 15,87	412.0	16.0	*****	4.50	*****	0.0545	1.10	0.38

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : RAILTON/DAILY/AEROCHEM

#10

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JUN 29,87	JUN 26,87	0.80	0.25	0.090	0.110	0.055	0.790	0.1820
JUN 30,87	JUN 29,87	!IS *****	0.50	!IS *****	!IS *****	!IS *****	1.900	0.1585
JUL 3,87	JUL 2,87	<T 0.04	0.63	<T 0.005	UG 0.615	<T 0.005	0.235	0.1023
JUL 12,87	JUL 3,87	0.72	0.32	0.100	0.105	<T 0.010	0.950	0.2042
JUL 15,87	JUL 14,87	<T 0.06	B 5.87	<T 0.010	U 6.510	<T 0.010	0.100	0.0437
JUL 19,87	JUL 18,87	1.82	0.10	0.230	D 0.240	0.035	1.450	0.0490
JUL 26,87	JUL 25,87	0.68	0.13	0.070	0.030	<T 0.005	0.505	0.0302
AUG 3,87	AUG 2,87	0.18	0.58	0.030	0.215	0.025	1.100	0.2138
AUG 5,87	AUG 4,87	0.18	0.18	0.025	0.040	<T 0.005	0.460	0.0724
AUG 8,87	AUG 7,87	*****	*****	*****	*****	*****	*****	*****
AUG 10,87	AUG 9,87	<T 0.04	0.07	<T 0.005	<T 0.010	<T 0.005	0.085	0.0468
AUG 20,87	AUG 19,87	UG 4.28	0.32	0.350	0.215	0.150	1.300	UG 0.0002
AUG 22,87	AUG 21,87	<T 0.10	0.10	<T 0.005	<T 0.015	<T 0.005	0.160	0.0316
AUG 29,87	AUG 28,87	<T 0.04	<T 0.02	<W 0.005	<T 0.010	<W 0.005	0.090	0.0091
SEP 1,87	AUG 31,87	0.18	0.27	<T 0.015	<T 0.020	<W 0.005	0.510	0.0912
SEP 9,87	SEP 8,87	<T 0.04	<T 0.03	<W 0.005	<T 0.010	<W 0.005	0.055	0.0115
SEP 13,87	SEP 12,87	D 0.20	0.43	0.040	0.035	0.045	0.510	0.1738
SEP 14,87	SEP 13,87	0.72	0.48	0.115	0.115	0.055	1.400	0.2291
SEP 20,87	SEP 18,87	<W 0.02	0.06	<W 0.005	<T 0.015	<T 0.020	0.115	0.0195
SEP 28,87	SEP 27,87	0.62	0.35	0.130	D 0.205	<T 0.015	0.395	0.0117
SEP 30,87	SEP 29,87	0.34	0.19	0.070	0.025	0.060	0.625	0.0832
OCT 1,87	SEP 30,87	0.12	0.08	0.040	0.045	<T 0.020	0.235	0.0091
OCT 3,87	OCT 2,87	0.78	0.19	0.100	0.115	0.055	0.445	0.0309
OCT 7,87	OCT 6,87	0.22	0.17	<T 0.015	0.065	<T 0.020	0.375	0.0741
OCT 8,87	OCT 7,87	<T 0.04	<T 0.01	<W 0.005	<T 0.020	<W 0.005	0.145	0.0339
OCT 9,87	OCT 8,87	!RE *****	!RE *****	!RE *****	!RE *****	!RE *****	!RE *****	!RE *****
OCT 18,87	OCT 17,87	0.60	0.34	0.055	0.100	0.065	0.950	0.1820
OCT 21,87	OCT 20,87	0.42	0.42	0.040	0.075	0.050	1.200	0.1820
OCT 25,87	OCT 22,87	0.44	0.19	0.045	0.040	0.035	0.540	0.0955
OCT 28,87	OCT 27,87	0.20	0.07	0.030	<T 0.015	0.025	0.275	0.0631
NOV 4,87	NOV 2,87	0.38	0.28	0.045	0.030	0.050	0.685	0.1000
NOV 5,87	NOV 4,87	0.18	<T 0.02	<T 0.015	<T 0.015	<T 0.010	0.410	0.0195
NOV 8,87	NOV 5,87	0.42	0.24	0.050	0.185	0.180	0.400	0.0324
NOV 18,87	NOV 17,87	0.12	0.34	0.030	<T 0.005	0.200	0.120	0.0257
NOV 19,87	NOV 18,87	1.46	0.33	0.185	0.080	0.065	1.100	0.0363
NOV 26,87	NOV 25,87	<T 0.04	0.09	<T 0.005	<T 0.010	0.035	0.180	0.0155
NOV 30,87	NOV 29,87	<T 0.02	0.08	<T 0.005	<T 0.010	0.030	0.170	0.0174
DEC 10,87	DEC 9,87	0.10	0.20	<T 0.020	<W 0.005	0.075	0.180	0.0525
DEC 13,87	DEC 12,87	<T 0.06	0.16	<T 0.010	<T 0.020	0.030	0.850	0.0617
DEC 16,87	DEC 15,87	0.12	0.07	<T 0.015	<T 0.010	0.025	0.080	0.0316

ONTARIO MINISTRY OF THE ENVIRONMENT  
 DAILY SAMPLING ANALYSIS RESULTS  
 APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : RAILTON/DAILY/AEROCHEM

#10

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
DEC 25,87	DEC 24,87	800 800	**** ****	2	5.0	2	91803	2	1	53	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : RAILTON/DAILY/AEROCHEM

#10

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
DEC 25,87	DEC 24,87	171.0	39.5	*****	4.18	*****	0.1040	2.65	1.13

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

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STATION NAME : RAILTON/DAILY/AEROCHEM

#10

PAGE : 9

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
DEC 25,87	DEC 24,87	0.52	0.64	0.070	0.030	0.320	0.440	0.0661

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILHER/DAILY/AEROCHEM

#9A

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 3,87	JAN 2,87	830 830	1500 1700	2	7.2	2	60095	2	1	15	N
JAN 7,87	JAN 6,87	830 900	**** 900	3	2.0	2	60096	2	1	98	
JAN 8,87	JAN 7,87	900 830	900 1130	2	0.4	2	60097	2	1	179	NH
JAN 10,87	JAN 9,87	830 900	**** 900	2	4.2	2	60098	2	1	81	
JAN 11,87	JAN 10,87	900 900	900 1330	2	2.8	2	60099	2	1	54	
JAN 13,87	JAN 12,87	830 830	1300 1600	2	1.0	2	60101	2	1	45	N
JAN 15,87	JAN 14,87	830 730	**** 730	3	0.4	2	60102	2	1	****	E N
JAN 16,87	JAN 15,87	730 830	**** ****	1	1.8	2	60103	2	1	125	NH
JAN 18,87	JAN 17,87	830 830	**** 730	3	0.2	2	60105	2	1	****	E N
JAN 19,87	JAN 18,87	830 830	730 1500	2	11.4	2	60106	2	1	54	
JAN 21,87	JAN 20,87	830 830	**** ****	2	1.6	2	60107	2	1	63	
JAN 23,87	JAN 22,87	830 830	1330 ****	2	9.4	2	60109	2	1	65	
JAN 24,87	JAN 23,87	830 830	**** ****	2	0.5	2	60110	2	1	24	NHCM
JAN 29,87	JAN 28,87	830 830	**** ****	3	0.2	2	60111	2	1	****	E N
JAN 31,87	JAN 30,87	830 830	730 1200	2	11.4	2	60113	2	1	68	
FEB 1,87	JAN 31,87	830 830	830 930	3	0.2	2	60114	2	1	****	E N
FEB 3,87	FEB 2,87	830 830	**** ****	3	1.5	2	60117	2	1	108	
FEB 5,87	FEB 4,87	830 830	1430 1800	3	1.8	2	60118	2	1	78	
FEB 8,87	FEB 7,87	830 830	**** ****	2	0.4	2	60120	2	1	58	
FEB 9,87	FEB 8,87	830 830	1000 1830	2	21.2	2	60121	2	1	44	N
FEB 10,87	FEB 9,87	830 830	**** 830	2	0.2	2	60123	2	1	179	N
FEB 11,87	FEB 10,87	830 830	830 1200	2	0.4	2	60124	2	1	124	N
FEB 13,87	FEB 12,87	830 830	2030 2300	2	1.0	2	60125	2	1	49	N
MAR 1,87	FEB 28,87	830 830	1530 830	3	15.6	2	60127	2	1	58	
MAR 2,87	MAR 1,87	830 830	830 830	3	21.2	2	60129	2	1	49	N
MAR 3,87	MAR 2,87	830 830	830 1200	3	1.2	2	60131	2	1	80	
MAR 4,87	MAR 3,87	830 830	1900 ****	2	0.2	9	80288	2	1	****	E N
MAR 26,87	MAR 25,87	830 830	1700 1630	1	7.4	1	80289	2	1	110	
MAR 31,87	MAR 30,87	830 830	900 830	1	27.6	1	80292	2	1	76	
APR 1,87	MAR 31,87	830 830	830 2000	3	10.0	1	80295	2	1	126	N
APR 2,87	APR 1,87	830 700	**** 700	2	0.8	1	80296	2	1	78	
APR 3,87	APR 2,87	700 830	700 1400	3	4.8	1	80229	2	1	91	
APR 4,87	APR 3,87	830 830	**** 830	3	6.2	1	80298	2	1	106	
APR 5,87	APR 4,87	830 830	830 830	1	20.6	1	80299	2	1	71	M
APR 6,87	APR 5,87	830 830	1800 1130	1	5.2	1	80302	2	1	120	
APR 7,87	APR 6,87	830 830	830 1230	1	0.4	1	80303	2	1	288	N
APR 13,87	APR 12,87	830 830	**** ****	1	0.2	1	80304	2	1	****	E N
APR 23,87	APR 22,87	830 800	400 800	1	0.2	1	80307	2	1	****	E N
APR 24,87	APR 23,87	800 800	800 1100	1	15.4	1	80308	2	1	108	
APR 28,87	APR 27,87	830 830	**** 830	1	3.6	1	80311	2	1	109	BC H



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILMER/DAILY/AEROCHEM

#9A

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 3,87	JAN 2,87	71.0	9.4	*****	4.79	*****	0.0348	0.65	0.24
JAN 7,87	JAN 6,87	126.0	76.5	3.78	3.91	*****	0.1650	4.30	2.35
JAN 8,87	JAN 7,87	46.0	37.6	*****	4.92	*****	0.0344	3.45	1.93
JAN 10,87	JAN 9,87	220.0	26.0	*****	4.27	*****	0.0781	1.70	0.56
JAN 11,87	JAN 10,87	97.0	50.7	*****	4.06	*****	0.1190	3.80	0.91
JAN 13,87	JAN 12,87	29.0	D 22.0	*****	4.66	*****	D 0.0483	D 3.10	0.55
JAN 15,87	JAN 14,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 16,87	JAN 15,87	145.0	> 100.0	*****	3.87	*****	0.1860	5.65	2.90
JAN 18,87	JAN 17,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 19,87	JAN 18,87	401.0	15.6	*****	4.79	*****	0.0358	0.85	0.50
JAN 21,87	JAN 20,87	65.0	59.8	*****	3.94	*****	0.1340	2.50	1.60
JAN 23,87	JAN 22,87	392.0	11.0	*****	4.83	*****	0.0349	LG 0.25	0.35
JAN 24,87	JAN 23,87	8.0	5.4	*****	UG 6.30	*****	LG 0.0155	<T 0.10	0.28
JAN 29,87	JAN 28,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 31,87	JAN 30,87	499.0	45.6	4.06	4.06	*****	0.1170	2.90	1.00
FEB 1,87	JAN 31,87	*****	*****	*****	*****	*****	*****	*****	*****
FEB 3,87	FEB 2,87	104.0	41.0	*****	4.23	*****	0.0908	2.50	1.45
FEB 5,87	FEB 4,87	90.0	8.5	*****	4.99	*****	0.0285	0.70	0.17
FEB 8,87	FEB 7,87	15.0	21.0	*****	4.75	*****	0.0441	2.00	0.72
FEB 9,87	FEB 8,87	610.0	26.4	4.42	4.43	*****	0.0607	1.85	0.81
FEB 10,87	FEB 9,87	23.0	13.8	*****	4.81	*****	0.0354	LG 0.30	0.68
FEB 11,87	FEB 10,87	32.0	D 21.4	*****	4.44	*****	0.0592	LG 0.30	0.81
FEB 13,87	FEB 12,87	32.0	19.0	*****	4.63	*****	0.0442	1.15	0.64
MAR 1,87	FEB 28,87	583.0	11.8	4.46	4.73	*****	0.0376	0.80	0.23
MAR 2,87	MAR 1,87	669.0	14.5	4.33	4.64	*****	0.0437	1.00	0.22
MAR 3,87	MAR 2,87	62.0	11.3	*****	5.12	*****	0.0258	1.05	0.44
MAR 4,87	MAR 3,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 26,87	MAR 25,87	523.0	D 19.0	*****	4.50	*****	0.0680	2.10	0.74
MAR 31,87	MAR 30,87	1354.0	22.0	*****	4.26	*****	0.0747	2.35	0.38
APR 1,87	MAR 31,87	813.0	12.0	*****	4.49	*****	0.0472	1.25	0.12
APR 2,87	APR 1,87	40.0	22.0	*****	4.28	*****	0.0701	1.70	0.59
APR 3,87	APR 2,87	282.0	22.0	*****	4.28	*****	0.0698	2.00	0.57
APR 4,87	APR 3,87	422.0	15.0	*****	4.46	*****	0.0527	1.25	0.28
APR 5,87	APR 4,87	939.0	6.0	*****	5.00	*****	0.0257	0.40	LG 0.10
APR 6,87	APR 5,87	400.0	8.0	*****	4.83	*****	0.0324	0.80	0.16
APR 7,87	APR 6,87	74.0	6.0	*****	UG 5.42	*****	0.0210	0.65	0.14
APR 13,87	APR 12,87	*****	*****	*****	*****	*****	*****	*****	*****
APR 23,87	APR 22,87	*****	*****	*****	*****	*****	*****	*****	*****
APR 24,87	APR 23,87	1074.0	43.0	*****	4.01	*****	0.1350	4.60	0.69
APR 28,87	APR 27,87	253.0	50.0	*****	4.54	*****	0.0721	5.45	UG 3.30

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILMER/DAILY/AEROCHEM

#9A

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 3,87	JAN 2,87	0.12	0.06	0.030	<T 0.025	0.030	0.035	0.0162
JAN 7,87	JAN 6,87	1.22	0.43	0.080	0.085	0.135	0.850	0.1230
JAN 8,87	JAN 7,87	UG 3.04	0.81	0.085	UG 0.439	UG 0.611	0.700	0.0120
JAN 10,87	JAN 9,87	0.14	0.08	<T 0.010	0.030	<T 0.020	0.295	0.0537
JAN 11,87	JAN 10,87	0.14	0.19	<T 0.015	0.045	0.035	0.710	0.0871
JAN 13,87	JAN 12,87	D 0.84	0.18	0.060	0.115	0.100	D 0.490	0.0219
JAN 15,87	JAN 14,87	*****	*****	*****	*****	*****	*****	*****
JAN 16,87	JAN 15,87	1.84	0.71	0.060	0.275	0.310	2.200	0.1349
JAN 18,87	JAN 17,87	*****	*****	*****	*****	*****	*****	*****
JAN 19,87	JAN 18,87	0.46	0.20	0.045	0.030	0.035	0.140	0.0162
JAN 21,87	JAN 20,87	0.50	0.60	0.040	0.055	0.150	0.200	0.1148
JAN 23,87	JAN 22,87	0.20	0.12	<T 0.010	<T 0.010	0.060	<T 0.005	0.0148
JAN 24,87	JAN 23,87	0.32	0.07	<T 0.015	0.030	0.040	<T 0.010	UG 0.0005
JAN 29,87	JAN 28,87	*****	*****	*****	*****	*****	*****	*****
JAN 31,87	JAN 30,87	0.18	0.16	<T 0.010	<T 0.020	0.035	0.410	0.0871
FEB 1,87	JAN 31,87	*****	*****	*****	*****	*****	*****	*****
FEB 3,87	FEB 2,87	0.36	0.25	D 0.045	0.055	D 0.075	0.980	0.0589
FEB 5,87	FEB 4,87	0.16	0.16	<T 0.015	<T 0.020	0.075	0.060	0.0102
FEB 8,87	FEB 7,87	0.84	0.49	0.070	0.095	0.250	0.340	0.0178
FEB 9,87	FEB 8,87	<T 0.08	0.25	<T 0.010	<T 0.015	<T 0.020	0.790	0.0372
FEB 10,87	FEB 9,87	0.58	0.20	0.040	0.070	0.120	<T 0.005	0.0155
FEB 11,87	FEB 10,87	0.34	0.17	0.025	0.050	0.080	<T 0.020	0.0363
FEB 13,87	FEB 12,87	0.76	0.22	0.030	<T 0.025	0.140	<W 0.005	0.0234
MAR 1,87	FEB 28,87	0.10	<T 0.03	<T 0.005	<T 0.010	<T 0.020	0.090	0.0186
MAR 2,87	MAR 1,87	<T 0.10	<T 0.01	<W 0.005	<T 0.015	<T 0.010	0.065	0.0229
MAR 3,87	MAR 2,87	0.68	<T 0.03	<T 0.020	0.045	0.040	0.095	0.0076
MAR 4,87	MAR 3,87	*****	*****	*****	*****	*****	*****	*****
MAR 26,87	MAR 25,87	0.50	0.22	0.040	0.050	0.045	0.305	0.0316
MAR 31,87	MAR 30,87	<T 0.10	0.31	<T 0.020	<T 0.020	0.130	0.235	0.0550
APR 1,87	MAR 31,87	<T 0.02	<W 0.01	<T 0.005	<T 0.005	<T 0.010	<T 0.025	0.0324
APR 2,87	APR 1,87	!IS *****	0.24	!IS *****	!IS *****	!IS *****	0.270	0.0525
APR 3,87	APR 2,87	0.12	0.22	<T 0.015	0.025	<T 0.020	0.360	0.0525
APR 4,87	APR 3,87	0.14	0.29	<T 0.020	<T 0.020	0.115	0.035	0.0347
APR 5,87	APR 4,87	<T 0.02	0.24	<T 0.010	<T 0.015	0.090	<T 0.020	0.0100
APR 6,87	APR 5,87	0.12	0.16	<T 0.020	<T 0.010	0.050	0.080	0.0148
APR 7,87	APR 6,87	0.12	0.18	<T 0.020	<T 0.020	0.065	0.200	UG 0.0038
APR 13,87	APR 12,87	*****	*****	*****	*****	*****	*****	*****
APR 23,87	APR 22,87	*****	*****	*****	*****	*****	*****	*****
APR 24,87	APR 23,87	0.30	0.23	0.040	0.045	0.045	0.385	0.0977
APR 28,87	APR 27,87	UG 3.38	0.58	UG 0.470	UG 0.750	0.360	1.900	0.0288

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILMER/DAILY/AEROCHEM

#9A

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
APR 29,87	APR 28,87	830 800	830 1230	1	1.2	1	80312	2	1	179	N
APR 30,87	APR 29,87	800 800	1100 1400	1	4.6	2	60132	2	1	122	A N
MAY 10,87	MAY 9,87	800 800	****	1	0.4	1	60133	2	1	****	EK
MAY 11,87	MAY 10,87	800 830	630 800	1	1.4	1	60134	2	1	142	N
MAY 12,87	MAY 11,87	830 830	****	1	3.2	1	60135	2	1	96	H
MAY 15,87	MAY 14,87	830 830	2400 500	1	12.0	1	60136	2	1	103	
MAY 17,87	MAY 16,87	830 830	****	1	3.4	1	60137	2	1	93	
MAY 22,87	MAY 21,87	830 800	200 800	1	4.6	1	60138	2	1	99	
MAY 23,87	MAY 22,87	800 830	800 1000	1	7.6	1	60139	2	1	102	
MAY 25,87	MAY 24,87	830 830	****	1	0.8	1	60140	2	1	66	Q
MAY 27,87	MAY 26,87	830 900	1630 2100	1	4.8	1	60141	2	1	99	A
MAY 28,87	MAY 27,87	900 830	200 630	1	6.8	1	60142	2	1	101	A
MAY 29,87	MAY 28,87	830 900	1600 1800	1	21.6	1	60143	2	1	****	EFI
MAY 31,87	MAY 30,87	830 830	1400 1500	1	0.4	1	60144	2	1	****	EK
JUN 1,87	MAY 31,87	830 830	1500 1530	1	12.6	1	60145	2	1	117	C
JUN 2,87	JUN 1,87	830 830	****	1	4.6	1	60146	2	1	100	T
JUN 3,87	JUN 2,87	830 830	****	4	15.4	1	60147	2	1	****	EK
JUN 4,87	JUN 3,87	830 830	945 1200	1	18.0	1	60148	2	1	64	T
JUN 6,87	JUN 5,87	830 830	1800 1915	1	2.8	1	60150	2	1	91	C
JUN 7,87	JUN 6,87	830 830	400 730	1	1.2	1	60151	2	1	80	HM
JUN 8,87	JUN 7,87	830 830	900 945	1	16.4	1	60152	2	1	108	H
JUN 9,87	JUN 8,87	830 800	815 930	1	9.6	1	60153	2	1	98	H
JUN 10,87	JUN 9,87	800 800	1045 1400	1	11.2	1	60154	2	1	91	
JUN 12,87	JUN 11,87	800 800	1900 2200	1	6.2	1	60155	2	1	98	C
JUN 13,87	JUN 12,87	800 800	****	1	5.6	1	60156	2	1	101	
JUN 20,87	JUN 19,87	800 800	1630 1800	1	13.2	1	60157	2	1	98	
JUN 22,87	JUN 21,87	800 800	630 730	1	0.2	1	60158	2	1	****	EK
JUN 23,87	JUN 22,87	800 800	1500 1715	1	0.6	1	60159	2	1	23	E N
JUN 27,87	JUN 26,87	800 800	900 1500	1	10.4	1	60160	2	1	97	
JUN 29,87	JUN 28,87	800 830	800 830	1	1.0	1	60161	2	1	84	JH
JUN 30,87	JUN 29,87	830 830	2000 2030	1	2.0	1	60162	2	1	95	A
JUL 3,87	JUL 2,87	830 830	****	1	10.6	1	60163	2	1	99	
JUL 4,87	JUL 3,87	830 830	****	1	5.8	1	60164	2	1	104	
JUL 15,87	JUL 14,87	830 830	1130 1600	1	14.6	1	60166	2	1	100	A M
JUL 19,87	JUL 18,87	830 830	2000 2130	1	6.4	1	60167	2	1	99	
JUL 20,87	JUL 19,87	830 830	245 315	1	2.0	1	60168	2	1	92	A
JUL 25,87	JUL 24,87	830 830	1730 1900	1	3.4	1	60169	2	1	97	H
JUL 26,87	JUL 25,87	830 830	****	1	0.4	1	60170	2	1	****	EK
JUL 28,87	JUL 27,87	830 830	1630 1645	1	0.4	1	60171	2	1	****	EK
AUG 3,87	AUG 2,87	830 830	1400 1800	1	11.6	1	60172	2	1	105	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILMER/DAILY/AEROCHEM

#9A

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
APR 29,87	APR 28,87	138.0	20.0	*****	4.82	*****	0.0407	3.30	0.75
APR 30,87	APR 29,87	362.0	19.8	UG 6.42	UG 6.87	*****	LG 0.0175	3.10	0.57
MAY 10,87	MAY 9,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 11,87	MAY 10,87	128.0	36.9	UG 6.76	UG 7.08	*****	0.0214	5.85	1.24
MAY 12,87	MAY 11,87	198.0	29.9	4.81	4.97	*****	0.0414	6.00	0.86
MAY 15,87	MAY 14,87	793.0	50.2	3.93	4.01	*****	0.1350	5.70	0.66
MAY 17,87	MAY 16,87	204.0	33.5	4.39	4.55	*****	0.0590	5.15	0.96
MAY 22,87	MAY 21,87	294.0	> 100.0	3.60	3.67	*****	0.2670	10.15	1.39
MAY 23,87	MAY 22,87	497.0	99.9	3.63	3.68	*****	0.2630	9.95	1.13
MAY 25,87	MAY 24,87	34.0	D 23.8	*****	B 6.29	*****	D 0.0217	D 4.95	0.65
MAY 27,87	MAY 26,87	306.0	95.6	D 3.65	3.71	*****	0.2490	10.00	1.03
MAY 28,87	MAY 27,87	443.0	47.0	3.84	3.95	*****	0.1150	4.45	0.70
MAY 29,87	MAY 28,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 31,87	MAY 30,87	*****	*****	*****	*****	*****	*****	*****	*****
JUN 1,87	MAY 31,87	952.0	21.4	4.28	4.43	*****	0.0543	2.55	0.35
JUN 2,87	JUN 1,87	295.0	60.8	3.74	3.79	*****	0.1550	5.40	0.90
JUN 3,87	JUN 2,87	*****	*****	*****	*****	*****	*****	*****	*****
JUN 4,87	JUN 3,87	741.0	95.0	3.55	D 3.59	*****	0.2460	9.20	1.20
JUN 6,87	JUN 5,87	165.0	97.1	5.19	5.52	*****	0.0213	1.15	0.25
JUN 7,87	JUN 6,87	62.0	12.8	4.61	4.85	*****	0.0348	1.55	0.20
JUN 8,87	JUN 7,87	1138.0	26.6	4.50	4.71	*****	0.0443	4.05	0.70
JUN 9,87	JUN 8,87	607.0	D 14.3	4.80	5.08	*****	0.0306	1.85	0.40
JUN 10,87	JUN 9,87	660.0	10.7	4.54	4.66	*****	0.0398	1.10	<T 0.05
JUN 12,87	JUN 11,87	390.0	60.8	3.76	3.81	*****	0.1670	6.10	0.65
JUN 13,87	JUN 12,87	365.0	14.8	4.61	4.79	*****	0.0351	1.65	0.30
JUN 20,87	JUN 19,87	831.0	54.6	3.88	4.01	*****	0.1260	6.55	1.05
JUN 22,87	JUN 21,87	*****	*****	*****	*****	*****	*****	*****	*****
JUN 23,87	JUN 22,87	9.0	*****	*****	*****	*****	*****	*****	*****
JUN 27,87	JUN 26,87	650.0	78.6	3.63	3.73	*****	0.2070	7.65	0.85
JUN 29,87	JUN 28,87	54.0	26.1	4.48	5.18	*****	0.0313	4.30	0.90
JUN 30,87	JUN 29,87	123.0	80.2	3.71	3.82	*****	0.1820	10.20	1.35
JUL 3,87	JUL 2,87	674.0	43.9	3.82	3.96	*****	0.1260	3.55	0.75
JUL 4,87	JUL 3,87	387.0	67.0	3.65	3.85	*****	0.1800	8.50	0.70
JUL 15,87	JUL 14,87	942.0	19.0	4.15	4.38	*****	0.0633	2.15	0.29
JUL 19,87	JUL 18,87	408.0	47.0	4.05	4.25	*****	0.0892	8.05	0.77
JUL 20,87	JUL 19,87	119.0	> 100.0	3.53	3.66	*****	0.2820	11.10	1.16
JUL 25,87	JUL 24,87	212.0	44.0	4.08	4.25	*****	0.0914	8.40	0.78
JUL 26,87	JUL 25,87	*****	*****	*****	*****	*****	*****	*****	*****
JUL 28,87	JUL 27,87	*****	*****	*****	*****	*****	*****	*****	*****
AUG 3,87	AUG 2,87	785.0	78.0	3.65	3.76	*****	0.2120	9.30	0.86

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILMER/DAILY/AEROCHEM

#9A

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIM MG/L	POTASSIM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
APR 29,87	APR 28,87	1.30	0.33	0.090	0.120	0.190	0.500	0.0151
APR 30,87	APR 29,87	0.74	0.11	0.115	0.065	0.045	1.350	UG 0.0001
MAY 10,87	MAY 9,87	*****	*****	*****	*****	*****	*****	*****
MAY 11,87	MAY 10,87	2.06	0.57	0.365	UG 0.380	UG 0.335	1.950	UG 0.0001
MAY 12,87	MAY 11,87	1.38	0.19	0.215	0.160	0.185	1.500	0.0107
MAY 15,87	MAY 14,87	0.30	0.10	0.045	0.035	<T 0.020	0.460	0.0977
MAY 17,87	MAY 16,87	0.92	0.13	0.145	0.060	0.035	1.150	0.0282
MAY 22,87	MAY 21,87	0.26	0.29	0.035	0.045	0.070	0.710	0.2138
MAY 23,87	MAY 22,87	0.14	0.27	<T 0.020	0.055	0.060	0.725	0.2089
MAY 25,87	MAY 24,87	!IS *****	0.25	!IS *****	!IS *****	!IS *****	1.650	B 0.0005
MAY 27,87	MAY 26,87	0.34	0.32	0.035	0.085	0.130	0.695	0.1950
MAY 28,87	MAY 27,87	0.24	0.15	0.035	<T 0.010	0.040	0.545	0.1122
MAY 29,87	MAY 28,87	*****	*****	*****	*****	*****	*****	*****
MAY 31,87	MAY 30,87	*****	*****	*****	*****	*****	*****	*****
JUN 1,87	MAY 31,87	0.16	<T 0.05	<T 0.020	0.035	0.025	0.530	0.0372
JUN 2,87	JUN 1,87	0.20	0.20	0.035	<T 0.015	0.025	0.555	0.1622
JUN 3,87	JUN 2,87	*****	*****	*****	*****	*****	*****	*****
JUN 4,87	JUN 3,87	0.14	0.30	<T 0.015	<T 0.015	0.040	0.900	D 0.2570
JUN 6,87	JUN 5,87	0.20	<T 0.05	<T 0.020	0.075	<T 0.025	0.360	0.0030
JUN 7,87	JUN 6,87	0.43	<T 0.05	0.030	0.035	<T 0.025	0.330	0.0141
JUN 8,87	JUN 7,87	0.70	0.20	0.100	0.105	D 0.090	1.150	0.0195
JUN 9,87	JUN 8,87	0.24	<T 0.05	0.040	0.035	<T 0.025	0.660	0.0083
JUN 10,87	JUN 9,87	<T 0.04	<T 0.05	<W 0.005	<T 0.005	<T 0.015	LG 0.050	0.0219
JUN 12,87	JUN 11,87	0.26	0.15	0.040	0.075	0.035	0.425	0.1549
JUN 13,87	JUN 12,87	0.12	<T 0.05	<T 0.020	<T 0.020	0.040	0.460	0.0162
JUN 20,87	JUN 19,87	1.14	0.15	0.105	<T 0.025	0.035	0.900	0.0977
JUN 22,87	JUN 21,87	*****	*****	*****	*****	*****	*****	*****
JUN 23,87	JUN 22,87	*****	*****	*****	*****	*****	*****	*****
JUN 27,87	JUN 26,87	0.32	0.20	0.030	<T 0.015	0.030	0.410	0.1862
JUN 29,87	JUN 28,87	0.84	0.45	0.170	UG 0.380	UG 0.205	1.250	0.0066
JUN 30,87	JUN 29,87	1.38	0.45	0.260	0.150	0.160	1.250	0.1514
JUL 3,87	JUL 2,87	0.14	0.10	<T 0.015	<T 0.010	<T 0.020	0.225	0.1096
JUL 4,87	JUL 3,87	0.26	0.18	0.035	0.030	<W 0.005	0.695	0.1413
JUL 15,87	JUL 14,87	<T 0.10	0.14	<T 0.005	<T 0.015	<T 0.015	0.080	0.0417
JUL 19,87	JUL 18,87	0.74	!CR *****	0.095	0.035	0.030	0.950	0.0562
JUL 20,87	JUL 19,87	0.68	0.42	0.085	0.060	0.125	0.615	0.2188
JUL 25,87	JUL 24,87	1.48	0.23	0.160	0.080	0.035	0.695	0.0562
JUL 26,87	JUL 25,87	*****	*****	*****	*****	*****	*****	*****
JUL 28,87	JUL 27,87	*****	*****	*****	*****	*****	*****	*****
AUG 3,87	AUG 2,87	0.14	0.28	<T 0.020	0.095	0.040	0.830	0.1738

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILMER/DAILY/AEROCHEM

#9A

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
AUG 5,87	AUG 4,87	830 830	1430 1515	1	4.4	1	60173	2	1	99	
AUG 8,87	AUG 7,87	830 830	1830 1900	1	0.6	1	60174	2	1	****	EK
AUG 10,87	AUG 9,87	830 830	1030 1800	1	6.0	1	60175	2	1	102	
AUG 18,87	AUG 17,87	830 830	****	1	0.2	1	60176	2	1	****	EK
AUG 19,87	AUG 18,87	830 830	1545 1615	1	1.0	1	60177	2	1	79	H
AUG 22,87	AUG 21,87	830 830	400 745	1	7.6	1	60178	2	1	103	
AUG 26,87	AUG 25,87	830 830	1340 1415	1	7.2	1	60179	2	1	U 20	G
AUG 29,87	AUG 28,87	830 830	2100 800	1	21.4	1	60180	2	1	72	
SEP 1,87	AUG 31,87	830 830	****	1	****	1	60182	2	1	****	
SEP 2,87	SEP 1,87	830 830	****	4	0.2	1	60183	2	1	****	E N
SEP 9,87	SEP 8,87	730 700	815 1600	1	59.4	1	60184	2	1	91	
SEP 10,87	SEP 9,87	700 700	800 900	1	0.5	1	60186	2	1	****	Q N
SEP 12,87	SEP 11,87	730 730	****	1	1.4	1	60187	2	1	95	
SEP 13,87	SEP 12,87	730 830	1400 1500	1	14.8	1	60188	2	1	101	A
SEP 14,87	SEP 13,87	830 700	****	1	1.6	1	60189	2	1	86	
SEP 18,87	SEP 17,87	700 700	****	1	0.8	1	60190	2	1	60	
SEP 19,87	SEP 18,87	700 700	800 1300	1	8.2	1	60191	2	1	86	
SEP 20,87	SEP 19,87	700 830	700 1830	1	14.8	1	60192	2	1	49	NM
SEP 21,87	SEP 20,87	830 700	1900 2130	1	4.4	1	60194	2	1	96	M
SEP 24,87	SEP 23,87	700 700	****	1	5.2	1	60195	2	1	95	Q
SEP 27,87	SEP 26,87	700 700	****	4	0.2	1	60196	2	1	****	E N
SEP 28,87	SEP 27,87	700 700	****	1	1.6	1	60197	2	1	89	
SEP 30,87	SEP 29,87	700 700	1845 2130	1	11.8	1	60198	2	1	103	
OCT 1,87	SEP 30,87	700 700	1300 1530	1	3.2	1	60199	2	1	95	
OCT 2,87	OCT 1,87	700 700	****	4	0.2	1	60200	2	1	****	EK
OCT 3,87	OCT 2,87	700 700	1000 1700	1	12.8	1	60201	2	1	97	
OCT 5,87	OCT 4,87	700 700	****	4	0.2	1	60202	2	1	****	EK
OCT 7,87	OCT 6,87	700 700	530 700	1	9.2	1	60203	2	1	103	
OCT 8,87	OCT 7,87	700 700	700 930	1	18.2	1	60204	2	1	58	
OCT 9,87	OCT 8,87	700 700	700 830	1	1.8	1	60206	2	1	71	
OCT 10,87	OCT 9,87	700 700	****	1	0.4	1	60207	2	1	****	EK
OCT 18,87	OCT 17,87	700 700	1830 2100	1	3.6	1	60208	2	1	87	
OCT 21,87	OCT 20,87	700 700	1630 2200	1	6.2	1	60209	2	1	94	
OCT 23,87	OCT 22,87	700 700	2300 700	1	11.2	1	60210	2	1	100	
OCT 24,87	OCT 23,87	700 700	700 930	1	1.8	1	60211	2	1	72	
OCT 25,87	OCT 24,87	700 700	1500 2000	1	7.0	1	60212	2	1	91	
OCT 28,87	OCT 27,87	700 700	1300 2100	1	7.2	1	60213	2	1	95	
OCT 30,87	OCT 29,87	700 700	****	1	0.2	1	60214	2	1	****	EK
OCT 31,87	OCT 30,87	700 700	800 1030	1	2.4	1	60215	2	1	81	
NOV 3,87	NOV 2,87	700 700	****	1	0.8	1	60216	2	1	60	



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILMER/DAILY/AEROCHEM

#9A

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
AUG 5,87	AUG 4,87	280.0	58.0	3.81	3.93	*****	D 0.1490	6.10	1.20
AUG 8,87	AUG 7,87	*****	*****	*****	*****	*****	*****	*****	*****
AUG 10,87	AUG 9,87	394.0	D 22.0	4.13	4.32	*****	D 0.0760	2.90	0.22
AUG 18,87	AUG 17,87	*****	*****	*****	*****	*****	*****	*****	*****
AUG 19,87	AUG 18,87	51.0	22.0	*****	UG 6.87	*****	0.0174	4.30	1.09
AUG 22,87	AUG 21,87	503.0	13.0	4.31	4.52	*****	0.0539	1.80	0.24
AUG 26,87	AUG 25,87	93.0	6.0	*****	UG 6.12	*****	0.0200	!IR *****	!IR *****
AUG 29,87	AUG 28,87	997.0	7.0	4.58	4.87	*****	0.0345	0.75	0.18
SEP 1,87	AUG 31,87	410.0	46.0	*****	4.02	*****	0.1320	5.20	0.53
SEP 2,87	SEP 1,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 9,87	SEP 8,87	3483.0	5.5	4.64	4.87	*****	0.0316	!CR *****	!CR *****
SEP 10,87	SEP 9,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 12,87	SEP 11,87	86.0	> 100.0	*****	3.64	*****	0.3080	13.40	2.05
SEP 13,87	SEP 12,87	961.0	79.0	3.67	3.81	*****	D 0.2090	7.80	0.84
SEP 14,87	SEP 13,87	89.0	> 100.0	*****	3.75	*****	0.2420	10.20	1.80
SEP 18,87	SEP 17,87	31.0	> 100.0	*****	3.65	*****	0.3010	9.55	1.22
SEP 19,87	SEP 18,87	457.0	15.0	4.40	4.57	*****	0.0491	1.45	0.21
SEP 20,87	SEP 19,87	468.0	9.0	4.62	4.75	*****	0.0377	1.00	0.16
SEP 21,87	SEP 20,87	272.0	14.0	4.42	4.60	*****	0.0468	1.55	0.14
SEP 24,87	SEP 23,87	319.0	9.0	4.94	5.14	*****	0.0275	1.55	0.15
SEP 27,87	SEP 26,87	*****	!RE *****	*****	!RE *****	*****	!RE *****	!RE *****	!RE *****
SEP 28,87	SEP 27,87	92.0	40.0	*****	4.24	*****	0.0905	3.65	1.03
SEP 30,87	SEP 29,87	785.0	58.0	3.95	4.03	*****	0.1340	6.65	0.73
OCT 1,87	SEP 30,87	195.0	6.0	4.80	5.04	*****	0.0291	0.90	0.19
OCT 2,87	OCT 1,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 3,87	OCT 2,87	801.0	20.0	4.29	4.58	*****	0.0516	3.60	0.48
OCT 5,87	OCT 4,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 7,87	OCT 6,87	610.0	33.0	3.97	4.13	*****	0.0994	2.75	0.81
OCT 8,87	OCT 7,87	685.0	14.0	4.25	4.48	*****	0.0530	1.65	0.23
OCT 9,87	OCT 8,87	82.0	5.0	*****	5.08	*****	0.0263	0.80	0.15
OCT 10,87	OCT 9,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 18,87	OCT 17,87	202.0	89.0	3.62	3.73	*****	0.2290	6.70	2.06
OCT 21,87	OCT 20,87	375.0	73.0	3.66	3.79	*****	0.1990	5.80	1.78
OCT 23,87	OCT 22,87	723.0	34.0	3.93	4.12	*****	0.0989	2.15	0.87
OCT 24,87	OCT 23,87	84.0	36.0	*****	4.29	*****	0.0766	3.45	1.53
OCT 25,87	OCT 24,87	411.0	78.0	3.64	3.75	*****	0.2100	6.65	1.81
OCT 28,87	OCT 27,87	443.0	26.0	4.08	4.27	*****	0.0757	1.90	0.60
OCT 30,87	OCT 29,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 31,87	OCT 30,87	126.0	64.0	3.82	3.96	*****	0.1440	4.05	2.80
NOV 3,87	NOV 2,87	31.0	> 100.0	*****	LG 3.57	*****	!IS *****	9.90	2.00



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILMER/DAILY/AEROCHEM

#9A

PAGE : 9

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
AUG 5,87	AUG 4,87	D 0.60	0.31	D 0.065	0.070	D 0.030	0.840	0.1175
AUG 8,87	AUG 7,87	*****	*****	*****	*****	*****	*****	*****
AUG 10,87	AUG 9,87	0.12	0.11	<T 0.015	<T 0.015	<T 0.020	0.100	0.0479
AUG 18,87	AUG 17,87	*****	*****	*****	*****	*****	*****	*****
AUG 19,87	AUG 18,87	2.22	0.30	0.135	0.095	0.085	0.775	UG 0.0001
AUG 22,87	AUG 21,87	D 0.30	0.09	<T 0.015	0.040	D 0.045	0.105	0.0302
AUG 26,87	AUG 25,87	0.22	!IR *****	0.035	<T 0.015	<T 0.015	0.310	UG 0.0008
AUG 29,87	AUG 28,87	<T 0.08	<T 0.03	<T 0.010	<T 0.015	<T 0.010	0.120	0.0135
SEP 1,87	AUG 31,87	0.20	0.19	<T 0.020	0.025	<W 0.005	0.510	0.0955
SEP 2,87	SEP 1,87	*****	*****	*****	*****	*****	*****	*****
SEP 9,87	SEP 8,87	<W 0.02	!CR *****	<W 0.005	<T 0.005	<T 0.005	LG 0.040	0.0135
SEP 10,87	SEP 9,87	*****	*****	*****	*****	*****	*****	*****
SEP 12,87	SEP 11,87	0.30	0.42	0.085	0.120	0.070	2.100	0.2291
SEP 13,87	SEP 12,87	<T 0.08	0.49	0.040	0.030	0.025	0.430	0.1549
SEP 14,87	SEP 13,87	0.48	0.35	0.095	0.070	0.040	1.050	0.1778
SEP 18,87	SEP 17,87	0.56	0.32	0.125	0.055	0.100	0.695	0.2239
SEP 19,87	SEP 18,87	<T 0.04	<T 0.01	0.035	<T 0.015	<W 0.005	0.070	0.0269
SEP 20,87	SEP 19,87	<W 0.02	0.09	0.030	<T 0.015	<T 0.010	0.055	0.0178
SEP 21,87	SEP 20,87	<W 0.02	<T 0.01	0.030	<T 0.010	<T 0.010	0.065	0.0251
SEP 24,87	SEP 23,87	0.18	<T 0.01	0.065	0.030	<T 0.010	0.225	0.0072
SEP 27,87	SEP 26,87	!RE *****	!RE *****	!RE *****	!RE *****	!RE *****	!RE *****	!RE *****
SEP 28,87	SEP 27,87	0.88	0.26	0.170	0.060	D 0.095	0.365	0.0575
SEP 30,87	SEP 29,87	0.36	0.24	0.080	0.040	0.075	0.745	0.0933
OCT 1,87	SEP 30,87	<T 0.06	<T 0.01	0.040	0.030	<T 0.020	D 0.140	0.0091
OCT 2,87	OCT 1,87	*****	*****	*****	*****	*****	*****	*****
OCT 3,87	OCT 2,87	0.68	0.12	0.065	0.080	0.055	0.470	0.0263
OCT 5,87	OCT 4,87	*****	*****	*****	*****	*****	*****	*****
OCT 7,87	OCT 6,87	0.20	D 0.46	<T 0.015	0.030	<T 0.015	0.260	0.0741
OCT 8,87	OCT 7,87	<T 0.02	<T 0.04	<W 0.005	<T 0.015	<W 0.005	0.125	0.0331
OCT 9,87	OCT 8,87	0.14	0.11	<T 0.015	0.045	0.055	0.065	0.0083
OCT 10,87	OCT 9,87	*****	*****	*****	*****	*****	*****	*****
OCT 18,87	OCT 17,87	0.58	0.33	0.060	0.090	0.055	0.790	0.1862
OCT 21,87	OCT 20,87	0.24	0.29	0.035	0.050	0.030	0.950	0.1622
OCT 23,87	OCT 22,87	<T 0.08	0.11	<T 0.005	<T 0.015	<T 0.015	0.275	0.0759
OCT 24,87	OCT 23,87	1.42	0.31	0.195	0.090	0.080	0.535	0.0513
OCT 25,87	OCT 24,87	0.54	0.37	0.060	0.095	0.065	0.755	0.1778
OCT 28,87	OCT 27,87	0.18	0.12	<T 0.020	<T 0.020	<T 0.025	0.200	0.0537
OCT 30,87	OCT 29,87	*****	*****	*****	*****	*****	*****	*****
OCT 31,87	OCT 30,87	1.58	0.61	0.245	0.110	0.045	1.100	0.1096
NOV 3,87	NOV 2,87	0.64	0.47	0.080	0.070	0.150	0.400	LG 0.2692

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WILMER/DAILY/AEROCHEM

#9A

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
NOV 4,87	NOV 3,87	700 700	700 1500	1	9.6	1	60218	2	1	99	
NOV 5,87	NOV 4,87	700 700	2000 2200	1	2.8	1	60219	2	1	94	
NOV 6,87	NOV 5,87	700 700	1500 1900	3	3.2	1	60220	2	1	65	
NOV 7,87	NOV 6,87	700 700	****	2	2.6	2	60221	2	1	81	HM
NOV 8,87	NOV 7,87	700 800	****	1	2.2	2	60222	2	1	121	N
NOV 9,87	NOV 8,87	800 700	800 1600	1	14.8	2	60223	2	1	51	
NOV 18,87	NOV 17,87	700 700	700 1600	1	32.4	2	60226	2	1	99	
NOV 21,87	NOV 20,87	700 800	****	2	0.2	2	60229	2	1	****	EK
NOV 23,87	NOV 22,87	700 700	****	1	0.2	2	60230	2	1	****	EK
NOV 24,87	NOV 23,87	700 700	2200 2220	1	0.2	2	60231	2	1	****	EK
NOV 26,87	NOV 25,87	700 700	900 1630	4	30.2	2	60232	2	1	U 44	J
NOV 28,87	NOV 27,87	700 800	****	1	0.2	2	60234	2	1	****	EK
NOV 29,87	NOV 28,87	800 900	1700 900	1	12.2	2	60235	2	1	100	
NOV 30,87	NOV 29,87	900 700	900 2000	1	48.6	2	60236	2	1	72	M
DEC 1,87	NOV 30,87	700 700	****	1	0.2	2	60237	2	1	U 522	EK
DEC 2,87	DEC 1,87	700 700	1500 2200	2	1.4	2	60238	2	1	****	EIK
DEC 4,87	DEC 3,87	700 700	****	1	0.4	2	60239	2	1	****	EK
DEC 5,87	DEC 4,87	700 800	****	1	0.2	2	60240	2	1	****	EK
DEC 9,87	DEC 8,87	700 700	845 1000	1	0.8	2	60241	2	1	54	
DEC 10,87	DEC 9,87	700 700	****	1	7.0	2	60242	2	1	114	
DEC 12,87	DEC 11,87	700 800	****	3	0.6	2	60243	2	1	31	N
DEC 13,87	DEC 12,87	800 800	930 1200	3	2.6	2	60244	2	1	148	N
DEC 14,87	DEC 13,87	800 700	****	2	0.2	2	60245	2	1	****	EK
DEC 16,87	DEC 15,87	700 700	1045 1600	3	29.6	2	60246	2	1	59	
DEC 17,87	DEC 16,87	700 700	700 900	2	1.0	2	60247	2	1	35	N
DEC 18,87	DEC 17,87	700 700	****	2	0.2	2	60248	2	1	****	EK
DEC 19,87	DEC 18,87	700 700	****	2	0.4	2	60249	2	1	****	EK
DEC 20,87	DEC 19,87	700 800	****	3	9.6	2	60250	2	1	80	
DEC 21,87	DEC 20,87	800 700	700 1500	1	7.8	2	60251	2	1	92	
DEC 28,87	DEC 27,87	700 700	****	2	0.2	2	60252	2	1	****	EK

PAGE : 11

[illegible]

#9A

PAGE : 12

[illegible]

PART VI  
SOUTHWESTERN REGION

DAILY PRECIPITATION CHEMISTRY LISTINGS

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM

#02

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 2,87	JAN 1,87	800 800	200 800	2	4.6	2	64636	2	1	71	
JAN 3,87	JAN 2,87	800 800	800 1600	2	2.8	2	64637	2	1	64	
JAN 8,87	JAN 7,87	800 800	800 1300	3	1.6	2	64638	2	1	94	T
JAN 10,87	JAN 9,87	800 900	2300 900	2	6.6	2	64639	2	1	47	N
JAN 11,87	JAN 10,87	900 800	800 1600	3	2.0	2	64640	2	1	107	
JAN 13,87	JAN 12,87	800 800	1600 1500	2	0.4	2	64641	2	1	81	H
JAN 15,87	JAN 14,87	800 800	2000 2400	1	4.8	2	64642	2	1	101	
JAN 17,87	JAN 16,87	800 800	1700 800	2	1.0	2	64643	2	1	****	FIE
JAN 19,87	JAN 18,87	800 800	900 1100	2	1.0	2	64644	2	1	46	N
JAN 23,87	JAN 22,87	800 800	2200 100	2	2.1	2	64645	2	1	36	N
JAN 30,87	JAN 29,87	800 800	2400 800	3	2.8	2	64647	2	1	64	
JAN 31,87	JAN 30,87	800 800	****	3	4.2	2	64648	2	1	64	
FEB 9,87	FEB 8,87	800 800	800 2000	3	5.4	2	64650	2	1	35	N
FEB 12,87	FEB 11,87	800 800	400 800	2	1.4	2	64651	2	1	37	N
FEB 22,87	FEB 21,87	800 800	700 900	2	1.0	2	64652	2	1	93	
FEB 23,87	FEB 22,87	900 800	500 800	2	1.2	2	64653	2	1	97	
FEB 28,87	FEB 27,87	800 900	400 700	2	0.6	2	64654	2	1	49	N
MAR 1,87	FEB 28,87	900 900	2000 900	1	7.8	2	64655	2	1	112	C
MAR 2,87	MAR 1,87	900 900	900 2100	3	7.0	2	64656	2	1	86	H
MAR 3,87	MAR 2,87	900 800	1900 2300	2	2.3	2	64649	2	1	94	C
MAR 4,87	MAR 3,87	800 800	1000 1400	2	1.0	2	64657	2	1	73	JHM
MAR 13,87	MAR 12,87	800 800	500 700	2	1.0	2	64658	2	1	****	E
MAR 14,87	MAR 13,87	800 800	600 800	2	1.0	2	64659	2	1	88	B
MAR 15,87	MAR 14,87	800 800	800 1000	2	0.4	2	64660	2	1	54	H
MAR 25,87	MAR 24,87	800 800	400 700	1	1.0	1	64661	2	1	78	H
MAR 26,87	MAR 25,87	800 800	2100 2400	1	1.0	1	64662	2	1	71	
MAR 27,87	MAR 26,87	800 800	1100 1200	1	1.4	1	64663	2	1	85	
MAR 30,87	MAR 29,87	800 800	2100 800	1	19.8	1	64664	2	1	116	
APR 1,87	MAR 31,87	800 800	1000 1200	2	1.4	2	64668	2	1	25	C
APR 2,87	APR 1,87	800 800	2000 100	1	14.0	2	64669	2	1	U 49	CGE
APR 3,87	APR 2,87	800 800	1000 1300	2	2.8	2	64670	2	1	39	N
APR 5,87	APR 4,87	800 800	1100 400	3	8.0	2	64671	2	1	U 74	CDGE
APR 6,87	APR 5,87	800 800	1400 2000	1	4.8	2	64672	2	1	77	H
APR 7,87	APR 6,87	800 800	1900 2000	1	0.8	2	64673	2	1	56	
APR 12,87	APR 11,87	800 800	300 900	1	9.6	1	64674	2	1	98	B
APR 13,87	APR 12,87	900 800	300 600	1	5.2	1	64675	2	1	97	C
APR 15,87	APR 14,87	800 800	1400 1600	1	2.0	1	64676	2	1	84	C
APR 23,87	APR 22,87	800 800	400 800	1	1.4	1	64677	2	1	93	
APR 24,87	APR 23,87	800 800	800 1000	1	1.4	1	64678	2	1	86	CB
APR 28,87	APR 27,87	800 800	1400 1600	1	10.8	1	64679	2	1	98	A JHM

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM

#02

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 2,87	JAN 1,87	212.0	26.4	4.31	4.32	*****	0.0763	0.85	0.80
JAN 3,87	JAN 2,87	116.0	14.8	4.72	4.71	*****	0.0430	0.70	0.36
JAN 8,87	JAN 7,87	97.0	62.5	*****	3.83	*****	0.1450	4.65	1.17
JAN 10,87	JAN 9,87	200.0	42.0	4.03	4.02	*****	0.1000	3.05	0.82
JAN 11,87	JAN 10,87	138.0	42.5	4.06	4.00	*****	0.1040	2.95	0.83
JAN 13,87	JAN 12,87	21.0	11.0	*****	5.70	*****	0.0234	1.60	0.23
JAN 15,87	JAN 14,87	312.0	44.1	4.03	3.98	*****	0.1100	2.95	0.84
JAN 17,87	JAN 16,87	*****	*****	*****	*****	*****	*****	*****	*****
JAN 19,87	JAN 18,87	30.0	11.6	*****	5.05	*****	0.0281	1.25	0.32
JAN 23,87	JAN 22,87	49.0	40.0	*****	4.11	*****	0.0875	1.15	1.31
JAN 30,87	JAN 29,87	116.0	53.3	*****	3.99	*****	0.1200	3.95	1.07
JAN 31,87	JAN 30,87	174.0	52.1	*****	3.97	*****	0.1240	4.05	0.80
FEB 9,87	FEB 8,87	122.0	19.3	UG	6.20	*****	0.0169	3.05	0.73
FEB 12,87	FEB 11,87	34.0	40.8	*****	4.37	*****	0.0707	1.45	2.37
FEB 22,87	FEB 21,87	60.0	> 100.0	*****	3.94	*****	0.1590	UG 12.20	UG 4.10
FEB 23,87	FEB 22,87	75.0	D 43.9	*****	4.14	*****	0.1000	D 3.05	1.52
FEB 28,87	FEB 27,87	19.0	26.8	*****	4.59	*****	0.0510	2.40	0.98
MAR 1,87	FEB 28,87	560.0	27.4	4.04	4.35	*****	0.0727	1.70	0.55
MAR 2,87	MAR 1,87	390.0	D 12.3	D 5.03	D 5.31	*****	D 0.0238	1.40	0.40
MAR 3,87	MAR 2,87	140.0	6.2	4.85	5.82	*****	0.0249	0.80	<W 0.01
MAR 4,87	MAR 3,87	47.0	9.0	*****	UG 6.71	*****	0.0160	1.25	0.13
MAR 13,87	MAR 12,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 14,87	MAR 13,87	57.0	17.0	*****	5.47	*****	0.0217	0.60	1.20
MAR 15,87	MAR 14,87	14.0	12.7	*****	5.23	*****	0.0245	1.25	0.62
MAR 25,87	MAR 24,87	50.0	38.0	*****	5.18	*****	0.0327	UG 8.95	1.20
MAR 26,87	MAR 25,87	46.0	54.8	*****	4.13	*****	0.1100	7.10	2.06
MAR 27,87	MAR 26,87	77.0	38.0	*****	4.22	*****	0.0871	3.85	0.83
MAR 30,87	MAR 29,87	1477.0	31.2	4.21	4.23	*****	0.0827	2.85	0.48
APR 1,87	MAR 31,87	23.0	8.9	*****	B 6.76	*****	0.0152	0.95	<W 0.01
APR 2,87	APR 1,87	443.0	*****	3.99	*****	*****	*****	*****	*****
APR 3,87	APR 2,87	70.0	28.5	*****	4.28	*****	0.0795	!IS *****	!IS *****
APR 5,87	APR 4,87	380.0	*****	4.63	*****	*****	*****	*****	*****
APR 6,87	APR 5,87	240.0	25.2	4.24	D 4.38	*****	0.0653	3.00	0.25
APR 7,87	APR 6,87	29.0	12.3	*****	6.39	*****	D 0.0373	1.55	0.18
APR 12,87	APR 11,87	605.0	18.0	*****	UG 6.85	*****	0.0295	3.40	0.40
APR 13,87	APR 12,87	325.0	9.0	*****	5.09	*****	0.0290	1.50	0.24
APR 15,87	APR 14,87	108.0	> 100.0	*****	B 7.61	*****	0.0365	B 19.00	<W 0.01
APR 23,87	APR 22,87	84.0	> 100.0	*****	3.49	*****	UG 0.4290	UG 20.00	UG 5.30
APR 24,87	APR 23,87	78.0	51.0	*****	4.05	*****	0.1290	8.00	1.19
APR 28,87	APR 27,87	683.0	13.0	5.09	UG 6.93	*****	0.0178	2.60	0.57



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM

#02

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 2,87	JAN 1,87	0.20	0.33	0.030	0.035	0.045	0.115	0.0479
JAN 3,87	JAN 2,87	0.12	D 0.51	0.025	0.070	0.285	0.100	0.0195
JAN 8,87	JAN 7,87	0.16	0.24	0.030	0.080	0.090	0.770	0.1479
JAN 10,87	JAN 9,87	0.20	0.25	0.035	0.040	0.065	0.565	0.0955
JAN 11,87	JAN 10,87	0.18	0.21	0.030	0.045	0.055	0.485	0.1000
JAN 13,87	JAN 12,87	0.36	0.27	0.060	0.125	0.190	0.410	0.0020
JAN 15,87	JAN 14,87	0.18	D 0.51	0.030	0.175	D 0.255	0.395	0.1047
JAN 17,87	JAN 16,87	*****	*****	*****	*****	*****	*****	*****
JAN 19,87	JAN 18,87	0.38	0.19	0.055	0.070	0.090	0.265	0.0089
JAN 23,87	JAN 22,87	0.82	1.37	0.145	0.080	0.520	0.210	0.0776
JAN 30,87	JAN 29,87	0.42	0.47	0.055	0.110	0.230	0.535	0.1023
JAN 31,87	JAN 30,87	0.20	0.48	0.035	0.035	0.085	0.480	0.1072
FEB 9,87	FEB 8,87	1.38	0.25	0.225	0.060	0.120	0.600	0.0004
FEB 12,87	FEB 11,87	1.82	0.76	0.290	0.065	0.425	0.430	0.0427
FEB 22,87	FEB 21,87	UG 6.22	UG 2.05	UG 0.965	0.085	UG 0.900	1.250	0.1148
FEB 23,87	FEB 22,87	0.56	0.56	0.090	0.145	0.270	0.930	0.0724
FEB 28,87	FEB 27,87	1.34	0.38	0.195	0.045	0.235	0.200	0.0257
MAR 1,87	FEB 28,87	0.22	0.21	0.035	D 0.080	0.075	0.185	0.0447
MAR 2,87	MAR 1,87	D 0.66	0.14	D 0.120	<T 0.015	<T 0.020	0.240	D 0.0049
MAR 3,87	MAR 2,87	<T 0.08	0.24	0.030	UG 1.170	0.170	<W 0.005	0.0015
MAR 4,87	MAR 3,87	0.86	0.21	0.170	0.115	0.135	0.100	UG 0.0002
MAR 13,87	MAR 12,87	*****	*****	*****	*****	*****	*****	*****
MAR 14,87	MAR 13,87	!IS *****	0.56	!IS *****	!IS *****	!IS *****	0.145	0.0034
MAR 15,87	MAR 14,87	0.96	0.48	0.155	0.050	0.245	0.140	0.0059
MAR 25,87	MAR 24,87	UG 3.66	0.71	0.545	0.195	0.355	0.720	0.0066
MAR 26,87	MAR 25,87	1.84	0.45	0.345	0.140	0.145	D 1.400	0.0741
MAR 27,87	MAR 26,87	0.30	0.81	0.060	D 0.290	D 0.295	0.950	0.0603
MAR 30,87	MAR 29,87	0.14	0.13	0.025	0.045	0.045	0.400	0.0589
APR 1,87	MAR 31,87	D 0.86	0.46	D 0.190	D 0.300	0.230	!IS *****	B 0.0002
APR 2,87	APR 1,87	*****	*****	*****	*****	*****	*****	*****
APR 3,87	APR 2,87	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	0.0525
APR 5,87	APR 4,87	*****	*****	*****	*****	*****	*****	*****
APR 6,87	APR 5,87	0.32	0.44	0.060	0.050	D 0.240	0.480	D 0.0417
APR 7,87	APR 6,87	0.54	0.29	0.110	0.155	0.165	!IS *****	0.0004
APR 12,87	APR 11,87	0.62	0.30	0.190	B 1.330	0.035	D 1.450	UG 0.0001
APR 13,87	APR 12,87	0.28	0.23	0.065	D 0.370	0.035	0.340	0.0081
APR 15,87	APR 14,87	UG 3.94	0.83	B 1.230	U 8.320	0.260	U 13.000	B 0.0000
APR 23,87	APR 22,87	UG 7.40	1.52	UG 1.130	0.305	0.320	1.450	0.3236
APR 24,87	APR 23,87	1.04	0.65	0.160	B 0.445	0.265	1.350	0.0891
APR 28,87	APR 27,87	0.84	0.37	0.160	D 0.105	0.075	0.730	UG 0.0001

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM

#02

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
APR 29,87	APR 28,87	800 800	900 1100	1	1.4	1	64680	2	1	65	H
MAY 11,87	MAY 10,87	800 800	1500 1600	1	0.8	1	64681	2	1	74	AC
MAY 12,87	MAY 11,87	800 800	2200 2300	1	3.0	1	64682	2	1	85	BC JHM
MAY 15,87	MAY 14,87	800 800	1800 2100	1	10.8	1	64683	2	1	94	C HM
MAY 19,87	MAY 18,87	800 800	900 1300	1	1.8	1	64684	2	1	113	BC J
MAY 22,87	MAY 21,87	800 800	700 800	1	4.4	1	64686	2	1	103	B
MAY 31,87	MAY 30,87	800 800	2200 2400	1	0.6	1	64687	2	1	80	H
JUN 2,87	JUN 1,87	800 800	700 1900	1	3.0	1	64688	2	1	89	H
JUN 12,87	JUN 11,87	800 800	500 600	1	9.8	1	64689	2	1	96	BC
JUN 13,87	JUN 12,87	800 800	2100 2130	1	1.8	1	64690	2	1	80	A H
JUN 14,87	JUN 13,87	800 900	2100 2200	1	1.2	1	64691	2	1	93	H
JUN 22,87	JUN 21,87	800 800	2100 2200	1	11.6	1	64692	2	1	****	EI
JUN 23,87	JUN 22,87	800 800	900 1100	1	3.4	1	64693	2	1	99	C
JUN 26,87	JUN 25,87	800 800	100 200	1	5.0	1	64694	2	1	101	
JUN 28,87	JUN 27,87	800 800	2000 2100	1	5.1	1	64695	2	1	100	H
JUN 29,87	JUN 28,87	800 800	1400 1600	1	2.8	1	64696	2	1	97	JH
JUN 30,87	JUN 29,87	800 1000	1900 2100	1	1.0	1	64697	2	1	57	
JUL 4,87	JUL 3,87	800 900	1500 1700	1	6.2	1	64698	2	1	103	
JUL 14,87	JUL 13,87	800 800	2100 600	1	21.6	1	64700	2	1	110	
JUL 26,87	JUL 25,87	800 900	500 700	1	3.0	1	64703	2	1	87	
AUG 2,87	AUG 1,87	800 930	745 915	1	28.2	1	64704	2	1	103	J
AUG 3,87	AUG 2,87	930 800	1600 1700	1	10.8	1	64707	2	1	103	J
AUG 8,87	AUG 7,87	800 800	1900 2000	1	3.2	1	64708	2	1	95	
AUG 9,87	AUG 8,87	800 900	2100 900	1	14.0	1	64709	2	1	102	D
AUG 10,87	AUG 9,87	900 800	900 1200	1	3.0	1	64710	2	1	U 93	J
AUG 19,87	AUG 18,87	800 800	2000 2200	1	3.2	1	64711	2	1	78	H
AUG 22,87	AUG 21,87	800 800	2130 200	1	4.0	1	64712	2	1	95	J
AUG 27,87	AUG 26,87	800 800	1000 1700	1	23.8	1	64713	2	1	126	NJ
AUG 28,87	AUG 27,87	800 800	2300 500	1	2.0	1	64716	2	1	68	
AUG 29,87	AUG 28,87	800 800	1000 2000	1	2.0	1	64717	2	1	46	NH
AUG 31,87	AUG 30,87	800 800	2400 500	1	1.8	1	64718	2	1	84	
SEP 1,87	AUG 31,87	800 800	1100 1300	1	1.8	1	64719	2	1	86	
SEP 2,87	SEP 1,87	800 800	100 400	1	5.2	1	64720	2	1	91	HM
SEP 10,87	SEP 9,87	800 800	2400 600	1	2.0	1	64721	2	1	80	
SEP 12,87	SEP 11,87	800 800	1100 1400	1	7.6	1	64722	2	1	99	
SEP 13,87	SEP 12,87	800 800	300 500	1	8.0	1	64723	2	1	96	
SEP 16,87	SEP 15,87	800 800	900 1100	1	4.2	1	64724	2	1	****	IEFK
SEP 18,87	SEP 17,87	800 800	1700 1900	1	73.1	1	64725	2	1	109	J
SEP 20,87	SEP 19,87	800 800	815 1000	1	2.6	1	64728	2	1	71	
SEP 21,87	SEP 20,87	800 800	2200 200	1	7.8	1	64729	2	1	97	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM				#02	PAGE : 5						
REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L		
APR 29,87	APR 28,87	59.0	8.4	*****	5.83	*****	0.0207	1.75	LG	0.03	
MAY 11,87	MAY 10,87	38.0	83.3	*****	7.68	*****	LG 0.0012	12.65	UG	2.99	
MAY 12,87	MAY 11,87	165.0	34.4	UG 5.68	6.63	*****	0.0263	6.75		1.11	
MAY 15,87	MAY 14,87	654.0	25.1	D 4.10	4.44	*****	0.0648	D 3.70		0.45	
MAY 19,87	MAY 18,87	131.0	93.1	3.94	B 7.69	*****	0.0271	UG 16.35		2.09	
MAY 22,87	MAY 21,87	293.0	45.0	4.09	4.17	*****	0.1030	5.50		0.70	
MAY 31,87	MAY 30,87	31.0	43.4	*****	5.06	*****	0.0359	6.90		1.89	
JUN 2,87	JUN 1,87	172.0	55.2	3.93	4.07	*****	D 0.1220	6.35		0.94	
JUN 12,87	JUN 11,87	608.0	20.9	4.58	4.88	*****	0.0383	3.45		0.49	
JUN 13,87	JUN 12,87	93.0	28.6	*****	5.65	*****	0.0261	5.10		0.85	
JUN 14,87	JUN 13,87	72.0	31.7	*****	6.68	*****	0.0207	4.35		1.21	
JUN 22,87	JUN 21,87	*****	*****	*****	*****	*****	*****	*****		*****	
JUN 23,87	JUN 22,87	217.0	66.4	3.73	3.88	*****	0.1540	7.00		0.92	
JUN 26,87	JUN 25,87	324.0	> 100.0	3.51	3.58	*****	0.3060	11.00		1.55	
JUN 28,87	JUN 27,87	328.0	12.3	UG 4.98	5.14	*****	0.0261	1.65		0.25	
JUN 29,87	JUN 28,87	175.0	29.1	UG 5.16	5.75	*****	0.0254	5.70		1.15	
JUN 30,87	JUN 29,87	37.0	52.1	*****	4.06	*****	!IS *****	5.25		1.55	
JUL 4,87	JUL 3,87	413.0	39.9	4.09	4.09	*****	0.1070	4.80		0.55	
JUL 14,87	JUL 13,87	1529.0	27.3	*****	4.30	*****	0.0712	2.80		0.55	
JUL 26,87	JUL 25,87	169.0	33.0	*****	4.96	*****	0.0372	8.25		0.98	
AUG 2,87	AUG 1,87	1876.0	21.0	3.85	4.48	*****	0.0610	3.30		0.35	
AUG 3,87	AUG 2,87	719.0	21.5	3.90	4.45	*****	0.0635	2.85		0.38	
AUG 8,87	AUG 7,87	196.0	53.0	3.95	4.19	*****	0.1150	8.80		1.55	
AUG 9,87	AUG 8,87	916.0	55.0	3.76	3.93	*****	0.1640	6.95		0.55	
AUG 10,87	AUG 9,87	179.0	41.0	3.88	4.07	*****	0.1230	4.85		0.66	
AUG 19,87	AUG 18,87	161.0	11.5	*****	6.10	*****	0.0190	D 1.80		0.47	
AUG 22,87	AUG 21,87	245.0	37.0	3.69	4.14	*****	0.1000	3.75		0.72	
AUG 27,87	AUG 26,87	1934.0	25.0	3.76	4.28	*****	0.0760	2.10		0.42	
AUG 28,87	AUG 27,87	88.0	14.0	*****	6.26	*****	0.0208	1.80		0.73	
AUG 29,87	AUG 28,87	60.0	13.0	*****	6.13	*****	0.0184	2.35		0.38	
AUG 31,87	AUG 30,87	98.0	41.5	*****	4.19	*****	0.1020	5.30		0.78	
SEP 1,87	AUG 31,87	100.0	32.0	4.09	4.33	*****	D 0.0774	D 4.20		0.52	
SEP 2,87	SEP 1,87	306.0	4.0	*****	5.48	*****	0.0188	LG 0.45	LG	0.12	
SEP 10,87	SEP 9,87	103.0	29.0	UG 6.48	6.80	*****	0.0178	6.65		0.84	
SEP 12,87	SEP 11,87	486.0	< 100.0	3.54	3.60	*****	0.2810	10.75		1.22	
SEP 13,87	SEP 12,87	497.0	67.0	3.69	3.82	*****	0.1810	6.95		0.83	
SEP 16,87	SEP 15,87	*****	*****	*****	*****	*****	*****	*****		*****	
SEP 18,87	SEP 17,87	5111.0	24.0	3.84	4.37	*****	0.0714	2.70		0.45	
SEP 20,87	SEP 19,87	119.0	46.0	3.78	3.99	*****	0.1310	3.70		0.76	
SEP 21,87	SEP 20,87	486.0	35.0	4.04	4.26	*****	0.0853	3.60		0.90	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM

#02

PAGE : 6

REMOVAL DATE	EXPOSURE DATE		CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
APR 29,87	APR 28,87		0.18	0.08	0.030	0.040	0.040	0.445	0.0015
MAY 11,87	MAY 10,87	U	6.68	UG 1.30	U 1.080	UG 0.455	UG 0.250	!IR *****	UG 0.0000
MAY 12,87	MAY 11,87		2.16	0.42	0.410	0.245	0.135	UG 2.830	0.0002
MAY 15,87	MAY 14,87		0.96	0.12	0.130	0.025	<T 0.015	D 0.585	0.0363
MAY 19,87	MAY 18,87	D	1.72	B 1.68	D 0.375	U 9.870	0.175	U 18.750	B 0.0000
MAY 22,87	MAY 21,87		0.60	0.46	0.100	B 0.330	B 0.220	0.765	0.0676
MAY 31,87	MAY 30,87	D	2.98	0.50	D 0.620	0.245	B 0.215	0.705	0.0087
JUN 2,87	JUN 1,87	D	1.10	0.22	0.170	0.110	0.090	1.000	0.0851
JUN 12,87	JUN 11,87		1.04	0.16	0.210	B 0.475	0.025	0.155	0.0132
JUN 13,87	JUN 12,87		0.84	0.27	0.185	0.190	0.105	1.700	0.0022
JUN 14,87	JUN 13,87		1.30	0.34	0.280	0.180	0.095	1.950	0.0002
JUN 22,87	JUN 21,87		*****	*****	*****	*****	*****	*****	*****
JUN 23,87	JUN 22,87		0.36	0.19	0.055	0.055	0.045	1.250	0.1318
JUN 26,87	JUN 25,87		0.48	0.85	0.115	0.125	0.095	0.695	0.2630
JUN 28,87	JUN 27,87		0.24	0.22	0.055	0.050	0.060	0.305	0.0072
JUN 29,87	JUN 28,87		2.12	UG 0.90	0.450	0.105	0.060	0.830	0.0018
JUN 30,87	JUN 29,87	!IS *****	UG 0.90	!IS *****	!IS *****	!IS *****	0.670	0.0871	0.0871
JUL 4,87	JUL 3,87		0.56	B 0.90	0.095	0.025	<T 0.005	0.490	0.0813
JUL 14,87	JUL 13,87		0.48	0.15	0.090	!CR *****	0.020	0.320	0.0501
JUL 26,87	JUL 25,87		3.10	0.39	0.540	0.085	0.055	0.515	0.0110
AUG 2,87	AUG 1,87		0.64	0.15	0.090	0.030	<T 0.015	0.420	0.0331
AUG 3,87	AUG 2,87		0.32	0.09	0.040	<T 0.015	0.025	0.430	0.0355
AUG 8,87	AUG 7,87		2.28	0.53	0.450	0.160	0.095	1.100	0.0646
AUG 9,87	AUG 8,87		0.28	0.14	0.055	0.060	0.030	0.540	0.1175
AUG 10,87	AUG 9,87		0.16	0.13	<T 0.020	0.055	0.040	0.685	0.0851
AUG 19,87	AUG 18,87		0.68	D 0.20	0.130	D 0.095	D 0.085	0.365	0.0008
AUG 22,87	AUG 21,87		0.66	0.14	0.075	0.045	0.055	0.335	0.0724
AUG 27,87	AUG 26,87		0.16	0.11	0.030	0.045	0.025	LG 0.110	0.0525
AUG 28,87	AUG 27,87		1.34	0.27	0.115	0.130	0.115	0.240	0.0005
AUG 29,87	AUG 28,87		0.76	0.12	0.130	0.065	D 0.035	0.380	0.0007
AUG 31,87	AUG 30,87		0.52	0.17	0.090	0.085	<T 0.020	0.900	0.0646
SEP 1,87	SEP 31,87		0.38	D 0.20	0.070	0.080	0.040	0.665	0.0468
SEP 2,87	SEP 1,87	<T	0.04	<T 0.03	<T 0.010	0.030	<T 0.020	LG 0.100	0.0033
SEP 10,87	SEP 9,87		2.38	0.41	0.340	0.165	0.165	1.000	UG 0.0002
SEP 12,87	SEP 11,87		0.54	0.30	0.055	0.050	<T 0.015	0.645	0.2512
SEP 13,87	SEP 12,87		0.16	0.15	<T 0.015	0.045	<T 0.015	0.625	0.1514
SEP 16,87	SEP 15,87		*****	*****	*****	*****	*****	*****	*****
SEP 18,87	SEP 17,87		0.12	0.10	<T 0.015	0.045	0.030	0.575	0.0427
SEP 20,87	SEP 19,87	<T	0.08	0.13	<T 0.010	0.075	0.040	0.185	0.1023
SEP 21,87	SEP 20,87		0.44	0.16	0.075	D 0.085	0.030	0.725	0.0550

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM

#02

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
SEP 30,87	SEP 29,87	800 800	1300 1600	1	3.5	1	64730	2	1	88	
OCT 2,87	OCT 1,87	800 800	300 400	1	2.6	1	64731	2	1	87	
OCT 3,87	OCT 2,87	800 800	2300 600	1	6.4	1	64732	2	1	94	H
OCT 6,87	OCT 5,87	800 800	2000 2400	1	1.3	1	64733	2	1	75	
OCT 8,87	OCT 7,87	800 800	100 800	1	9.4	1	64734	2	1	96	
OCT 12,87	OCT 11,87	800 800	2000 100	1	6.6	1	64735	2	1	111	HM
OCT 23,87	OCT 22,87	800 800	1400 2100	1	10.9	1	64737	2	1	82	H
OCT 25,87	OCT 24,87	800 800	1000 2200	1	18.2	1	64738	2	1	15	
OCT 27,87	OCT 26,87	800 800	****	1	14.8	1	64739	2	1	****	F EF
OCT 28,87	OCT 27,87	800 800	700 800	1	1.0	1	64740	2	1	35	N
OCT 29,87	OCT 28,87	800 800	800 845	1	2.2	1	64741	2	1	116	C
NOV 2,87	NOV 1,87	800 800	900 1100	1	0.8	1	64742	2	1	85	
NOV 3,87	NOV 2,87	800 800	500 700	1	1.9	1	64743	2	1	100	
NOV 9,87	NOV 8,87	800 800	1700 1900	1	3.0	1	64744	2	1	95	
NOV 14,87	NOV 13,87	800 800	2000 200	1	1.0	1	64745	2	1	82	H
NOV 17,87	NOV 16,87	800 1000	800 1000	1	1.0	1	64746	2	1	117	
NOV 21,87	NOV 20,87	800 800	1600 800	2	16.8	2	64747	2	1	69	J
NOV 22,87	NOV 21,87	800 800	1000 1700	2	3.4	2	64750	2	1	106	JHCM
NOV 25,87	NOV 24,87	800 800	200 800	1	14.2	2	64751	2	1	87	C J
NOV 26,87	NOV 25,87	800 800	800 1900	1	33.0	2	64752	2	1	97	JM
NOV 29,87	NOV 28,87	800 800	1500 600	1	9.4	2	64753	2	1	95	JHM
DEC 1,87	NOV 30,87	800 800	100 800	1	1.0	2	64754	2	1	54	
DEC 2,87	DEC 1,87	800 800	2200 500	2	4.0	2	64755	2	1	56	JH
DEC 4,87	DEC 3,87	800 800	1200 2000	2	5.8	2	64756	2	1	65	J
DEC 5,87	DEC 4,87	800 800	200 800	1	5.6	2	64757	2	1	14	N
DEC 9,87	DEC 8,87	800 800	500 800	1	5.0	2	64758	2	1	113	
DEC 10,87	DEC 9,87	800 800	800 1000	1	1.8	2	64759	2	1	82	C
DEC 12,87	DEC 11,87	800 800	1900 200	1	6.0	2	64760	2	1	109	
DEC 13,87	DEC 12,87	800 800	****	2	0.5	2	64761	2	1	****	E
DEC 15,87	DEC 14,87	800 800	200 800	3	19.4	2	64762	2	1	42	N NJH
DEC 16,87	DEC 15,87	800 800	800 1300	3	11.4	2	64763	2	1	52	CD H
DEC 17,87	DEC 16,87	800 800	800 1200	2	8.0	2	64764	2	1	****	FIKE
DEC 20,87	DEC 19,87	800 900	1800 600	1	17.4	2	64765	2	1	104	
DEC 25,87	DEC 24,87	800 900	1200 2400	1	4.2	2	64768	2	1	119	
DEC 29,87	DEC 28,87	800 800	1900 2200	2	1.5	2	64769	2	1	61	CM

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM

#02

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	
SEP 30,87	SEP 29,87	198.0	68.0		3.84	3.96	*****	0.1490	7.85	0.85
OCT 2,87	OCT 1,87	146.0	30.0	UG	6.73	6.98	*****	0.0185	5.35	0.89
OCT 3,87	OCT 2,87	388.0	LG 3.0	UG	5.39	5.79	*****	0.0181	LG 0.70	LG 0.08
OCT 6,87	OCT 5,87	63.0	27.5	*****		6.21	*****	0.0213	4.30	1.16
OCT 8,87	OCT 7,87	579.0	LG 3.5	UG	5.49	5.95	*****	0.0193	LG 0.65	LG 0.07
OCT 12,87	OCT 11,87	472.0	6.0	UG	6.10	6.69	*****	0.0192	LG 0.75	0.19
OCT 23,87	OCT 22,87	574.0	15.0	*****		4.66	*****	0.0451	2.00	0.54
OCT 25,87	OCT 24,87	176.0	!IS *****	*****	D 6.06	*****	D 0.0223	!IS *****	!IS *****	*****
OCT 27,87	OCT 26,87	*****	*****	*****	*****	*****	*****	*****	*****	*****
OCT 28,87	OCT 27,87	23.0	9.0	*****	B 8.24	*****	D 0.0096	D 1.00		0.21
OCT 29,87	OCT 28,87	165.0	12.0	*****		4.68	*****	0.0444	1.60	0.67
NOV 2,87	NOV 1,87	44.0	71.0	*****		3.93	*****	0.1930	7.70	> 2.00
NOV 3,87	NOV 2,87	122.0	59.0		3.69	3.97	*****	0.1710	8.25	0.89
NOV 9,87	NOV 8,87	184.0	26.0		4.18	4.41	*****	0.0749	3.90	0.63
NOV 14,87	NOV 13,87	53.0	23.0	*****		5.04	*****	0.0385	5.30	0.88
NOV 17,87	NOV 16,87	75.0	10.0	*****		5.43	*****	0.0235	2.45	0.32
NOV 21,87	NOV 20,87	753.0	LG 2.5	UG	5.32	6.66	*****	0.0170	LG 0.50	LG 0.07
NOV 22,87	NOV 21,87	232.0	<T 0.5		4.94	5.99	*****	0.0173	LG 0.30	<T 0.02
NOV 25,87	NOV 24,87	795.0	19.0		3.71	4.38	*****	0.0676	1.50	0.38
NOV 26,87	NOV 25,87	2073.0	14.0		3.81	4.49	*****	0.0565	1.15	0.18
NOV 29,87	NOV 28,87	577.0	14.0		3.84	4.50	*****	0.0520	1.25	0.28
DEC 1,87	NOV 30,87	35.0	24.0	*****	D 5.45	*****	*****	0.0339	3.05	0.65
DEC 2,87	DEC 1,87	146.0	7.0		4.75	6.29	*****	0.0191	0.85	0.15
DEC 4,87	DEC 3,87	244.0	30.0		3.53	4.18	*****	0.0934	2.10	0.84
DEC 5,87	DEC 4,87	52.0	LG 3.5	*****		6.20	*****	0.0170	0.70	LG 0.09
DEC 9,87	DEC 8,87	363.0	51.0		3.63	3.94	*****	0.1310	4.35	0.72
DEC 10,87	DEC 9,87	95.0	16.0	*****		4.55	*****	0.0456	1.70	0.33
DEC 12,87	DEC 11,87	422.0	31.0		3.82	4.16	*****	0.0874	1.75	0.84
DEC 13,87	DEC 12,87	*****	*****	*****	*****	*****	*****	*****	*****	*****
DEC 15,87	DEC 14,87	533.0	12.0		4.20	5.63	*****	0.0238	2.15	0.20
DEC 16,87	DEC 15,87	382.0	23.0		4.32	4.38	*****	0.0704	2.15	0.41
DEC 17,87	DEC 16,87	*****	*****	*****	*****	*****	*****	*****	*****	*****
DEC 20,87	DEC 19,87	1171.0	31.0	*****		4.26	*****	0.0869	2.20	0.54
DEC 25,87	DEC 24,87	323.0	D 38.0		4.16	4.18	*****	D 0.1040	D 3.05	0.68
DEC 29,87	DEC 28,87	59.0	10.0	*****	UG 7.20	*****	*****	0.0157	0.55	0.30



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : LONGWOODS/DAILY/AEROCHEM		#02		PAGE : 9					
REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L	
SEP 30,87	SEP 29,87	0.90	0.47	0.120	0.135	0.150	0.830	0.1096	
OCT 2,87	OCT 1,87	2.30	0.16	0.300	0.195	UG 0.260	1.050	UG 0.0001	
OCT 3,87	OCT 2,87	0.14	0.14	0.025	0.045	0.030	0.150	0.0016	
OCT 6,87	OCT 5,87	2.08	0.56	0.360	UG 0.385	UG 0.265	0.640	0.0006	
OCT 8,87	OCT 7,87	0.10	0.12	<T 0.020	0.080	0.060	0.150	0.0011	
OCT 12,87	OCT 11,87	0.22	0.10	0.030	0.060	0.050	0.330	0.0002	
OCT 23,87	OCT 22,87	0.20	D 0.31	0.035	D 0.090	D 0.085	0.465	0.0219	
OCT 25,87	OCT 24,87	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	D 0.0009	
OCT 27,87	OCT 26,87	*****	*****	*****	*****	*****	*****	*****	
OCT 28,87	OCT 27,87	D 0.28	B 1.27	0.045	B 0.760	B 0.710	!IS *****	B 0.0000	
OCT 29,87	OCT 28,87	0.54	0.30	0.090	0.080	0.105	0.385	0.0209	
NOV 2,87	NOV 1,87	1.20	0.83	0.170	0.275	0.335	0.850	0.1175	
NOV 3,87	NOV 2,87	0.64	0.70	0.075	0.205	0.380	0.665	0.1072	
NOV 9,87	NOV 8,87	0.70	0.67	0.080	D 0.350	D 0.315	0.415	0.0389	
NOV 14,87	NOV 13,87	2.04	0.50	0.325	0.150	0.150	0.685	0.0091	
NOV 17,87	NOV 16,87	1.06	0.49	0.210	0.085	0.220	LG 0.045	0.0037	
NOV 21,87	NOV 20,87	0.30	0.27	0.060	0.085	0.120	0.085	UG 0.0002	
NOV 22,87	NOV 21,87	<T 0.06	0.16	<T 0.020	<T 0.020	0.075	LG 0.030	0.0010	
NOV 25,87	NOV 24,87	0.20	0.15	0.035	D 0.135	0.045	0.150	0.0417	
NOV 26,87	NOV 25,87	<T 0.06	0.08	<T 0.010	D 0.055	D 0.035	0.135	0.0324	
NOV 29,87	NOV 28,87	0.18	0.05	0.040	<T 0.020	0.035	D 0.170	0.0316	
DEC 1,87	NOV 30,87	D 0.64	B 2.10	D 0.105	B 1.400	B 1.270	!IS *****	D 0.0035	
DEC 2,87	DEC 1,87	0.30	D 0.42	0.045	D 0.300	0.250	0.280	0.0005	
DEC 4,87	DEC 3,87	0.32	0.31	0.045	<T 0.025	0.065	0.480	0.0661	
DEC 5,87	DEC 4,87	0.22	0.15	0.040	0.050	0.120	0.205	0.0006	
DEC 9,87	DEC 8,87	0.26	0.92	0.070	0.085	0.455	0.230	0.1148	
DEC 10,87	DEC 9,87	D 0.28	0.12	D 0.035	0.080	0.080	0.105	0.0282	
DEC 12,87	DEC 11,87	0.22	0.11	0.035	<T 0.015	0.030	0.235	0.0692	
DEC 13,87	DEC 12,87	*****	*****	*****	*****	*****	*****	*****	
DEC 15,87	DEC 14,87	0.28	0.91	0.045	B 0.440	D 0.435	0.365	0.0023	
DEC 16,87	DEC 15,87	0.60	D 0.40	0.075	D 0.135	D 0.135	0.205	0.0417	
DEC 17,87	DEC 16,87	*****	*****	*****	*****	*****	*****	*****	
DEC 20,87	DEC 19,87	0.16	0.12	0.030	<T 0.015	0.045	0.275	0.0550	
DEC 25,87	DEC 24,87	0.24	0.22	0.030	<T 0.025	0.075	0.400	0.0661	
DEC 29,87	DEC 28,87	1.14	0.15	0.195	0.035	0.060	LG 0.030	UG 0.0001	



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 1

REMOVAL DATE		EXPOSURE DATE		SAMPLING START/END HR. HR.		PRECIP START/END HR. HR.		SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN	2,87	JAN	1,87	800	800	****	****	2	4.8	2	61372	2	1	50	
JAN	3,87	JAN	2,87	800	800	****	****	2	1.0	2	61373	2	1	34	N
JAN	7,87	JAN	6,87	800	800	****	****	2	0.2	2	61374	2	1	140	N
JAN	10,87	JAN	9,87	800	800	2330	700	2	9.0	2	61375	2	1	40	NM
JAN	11,87	JAN	10,87	800	800	830	1600	2	0.8	2	61376	2	1	58	X
JAN	15,87	JAN	14,87	800	800	1900	2400	1	4.8	2	61377	2	1	99	
JAN	19,87	JAN	18,87	800	800	900	1100	2	6.6	2	61378	2	1	82	
JAN	20,87	JAN	19,87	800	800	1200	1830	2	8.8	2	61379	2	1	17	NC
JAN	23,87	JAN	22,87	800	800	2100	130	2	0.8	2	61380	2	1	79	
JAN	30,87	JAN	29,87	800	800	****	800	2	2.4	2	61382	2	1	47	N
JAN	31,87	JAN	30,87	800	800	****	****	2	2.0	2	61383	2	1	59	
FEB	9,87	FEB	8,87	800	800	1300	2000	2	1.6	2	61384	2	1	****	FEI
FEB	12,87	FEB	11,87	800	800	****	****	2	1.4	2	61385	2	1	82	
FEB	13,87	FEB	12,87	800	800	****	****	2	0.8	2	61386	2	1	46	N
FEB	14,87	FEB	13,87	800	800	1200	1500	2	0.8	2	61387	2	1	78	E
FEB	23,87	FEB	22,87	800	800	830	1000	2	1.8	2	61388	2	1	78	
FEB	28,87	FEB	27,87	800	800	300	800	1	0.6	2	61389	2	1	135	N
MAR	1,87	FEB	28,87	800	800	2200	900	1	8.0	2	61390	2	1	100	
MAR	2,87	MAR	1,87	800	800	800	2000	3	6.0	2	61391	2	1	85	
MAR	4,87	MAR	3,87	800	800	900	1200	2	0.4	2	61392	2	1	****	EK
MAR	12,87	MAR	11,87	800	800	****	****	1	0.1	2	61393	2	1	****	EK
MAR	14,87	MAR	13,87	800	800	500	800	2	0.6	2	61394	2	1	64	
MAR	15,87	MAR	14,87	800	800	800	1000	2	0.4	2	61395	2	1	42	N
MAR	25,87	MAR	24,87	800	800	****	****	1	0.6	1	61396	2	1	59	
MAR	26,87	MAR	25,87	800	800	2200	2400	1	0.8	1	61397	2	1	52	
MAR	27,87	MAR	26,87	800	800	1000	1200	1	1.0	1	61398	2	1	79	
MAR	30,87	MAR	29,87	800	800	2100	800	1	17.0	1	61399	2	1	96	
MAR	31,87	MAR	30,87	800	800	****	****	2	5.8	2	61400	2	1	35	NC
APR	1,87	MAR	31,87	800	800	1000	1200	2	1.0	2	61401	2	1	4	E
APR	2,87	APR	1,87	800	800	2000	100	3	7.2	2	61402	2	1	78	N
APR	5,87	APR	4,87	800	800	1100	400	1	5.8	2	61403	2	1	105	
APR	6,87	APR	5,87	800	800	1400	2000	1	3.4	2	61404	2	1	110	
APR	7,87	APR	6,87	800	800	1900	2000	1	0.6	2	61405	2	1	13	E
APR	12,87	APR	11,87	800	800	400	800	1	13.8	1	61406	2	1	100	N
APR	13,87	APR	12,87	800	800	800	600	1	1.2	1	61407	2	1	66	
APR	14,87	APR	13,87	800	800	****	****	1	0.2	1	61408	2	1	****	KE
APR	15,87	APR	14,87	800	800	1400	1600	1	3.8	1	61409	2	1	94	
APR	23,87	APR	22,87	800	800	500	800	1	1.4	1	61410	2	1	72	A
APR	24,87	APR	23,87	800	800	800	1000	1	1.8	1	61411	2	1	78	
APR	28,87	APR	27,87	800	800	1430	1600	1	9.4	1	61412	2	1	88	AB

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 2,87	JAN 1,87	156.0	24.5	*****	4.20	*****	0.0664	LG 0.50	0.72
JAN 3,87	JAN 2,87	22.0	7.3	*****	5.57	*****	0.0199	0.55	0.27
JAN 7,87	JAN 6,87	18.0	D 34.1	*****	4.28	*****	D 0.0666	2.45	1.24
JAN 10,87	JAN 9,87	232.0	47.5	4.04	3.94	*****	0.1150	3.30	0.94
JAN 11,87	JAN 10,87	30.0	*****	*****	*****	*****	*****	*****	*****
JAN 15,87	JAN 14,87	307.0	44.6	4.08	3.99	*****	0.1140	2.95	0.79
JAN 19,87	JAN 18,87	349.0	31.2	4.25	D 4.13	*****	0.0797	2.25	0.53
JAN 20,87	JAN 19,87	100.0	LG 5.0	UG 5.35	5.41	*****	D 0.0199	LG 0.45	LG 0.09
JAN 23,87	JAN 22,87	41.0	45.1	*****	3.97	*****	0.1080	1.20	1.18
JAN 30,87	JAN 29,87	73.0	73.7	*****	3.80	*****	0.1920	4.35	1.61
JAN 31,87	JAN 30,87	76.0	58.2	*****	3.94	*****	0.1470	3.90	1.05
FEB 9,87	FEB 8,87	*****	*****	*****	*****	*****	*****	*****	*****
FEB 12,87	FEB 11,87	74.0	50.4	*****	4.04	*****	0.1150	2.40	1.79
FEB 13,87	FEB 12,87	24.0	27.9	*****	4.33	*****	0.0678	1.65	0.78
FEB 14,87	FEB 13,87	40.0	*****	*****	*****	*****	*****	*****	*****
FEB 23,87	FEB 22,87	90.0	> 100.0	*****	3.80	*****	0.1860	UG 8.40	UG 3.45
FEB 28,87	FEB 27,87	52.0	76.2	*****	<=> 3.75	*****	0.2080	7.35	2.18
MAR 1,87	FEB 28,87	514.0	31.7	4.16	4.31	*****	D 0.0838	1.80	0.58
MAR 2,87	MAR 1,87	329.0	24.1	4.33	4.44	*****	0.0651	D 1.85	0.43
MAR 4,87	MAR 3,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 12,87	MAR 11,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 14,87	MAR 13,87	25.0	20.0	*****	4.39	*****	0.0555	LG 0.35	0.91
MAR 15,87	MAR 14,87	11.0	14.5	*****	4.51	*****	0.0449	LG 0.35	0.41
MAR 25,87	MAR 24,87	23.0	36.9	*****	4.36	*****	0.0753	5.20	0.91
MAR 26,87	MAR 25,87	27.0	50.9	*****	4.29	*****	0.0877	5.95	1.80
MAR 27,87	MAR 26,87	51.0	D 57.4	*****	4.09	*****	0.1290	D 6.60	1.51
MAR 30,87	MAR 29,87	1052.0	28.1	4.21	4.31	*****	0.0755	2.70	0.48
MAR 31,87	MAR 30,87	133.0	9.9	4.75	4.96	*****	0.0273	0.95	0.13
APR 1,87	MAR 31,87	3.0	*****	*****	*****	*****	*****	*****	*****
APR 2,87	APR 1,87	361.0	56.0	3.96	4.03	*****	0.1300	3.70	1.85
APR 5,87	APR 4,87	394.0	11.7	4.60	4.82	*****	0.0340	D 1.20	0.16
APR 6,87	APR 5,87	241.0	21.1	4.40	4.54	*****	0.0513	2.65	0.25
APR 7,87	APR 6,87	5.0	*****	*****	*****	*****	*****	*****	*****
APR 12,87	APR 11,87	893.0	17.0	*****	4.45	*****	0.0552	2.10	0.36
APR 13,87	APR 12,87	51.0	20.0	*****	4.41	*****	0.0636	2.15	0.54
APR 14,87	APR 13,87	*****	*****	*****	*****	*****	*****	*****	*****
APR 15,87	APR 14,87	231.0	90.0	*****	3.67	*****	0.2600	UG 11.00	1.29
APR 23,87	APR 22,87	65.0	> 100.0	*****	D 3.91	*****	0.1980	UG 22.00	UG 6.20
APR 24,87	APR 23,87	91.0	71.0	*****	3.81	*****	0.2000	UG 8.65	1.20
APR 28,87	APR 27,87	535.0	19.0	D 4.40	D 4.81	*****	D 0.0390	2.65	0.69

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 3

REMOVAL DATE		EXPOSURE DATE		CALCIUM	CHLORIDE	MAGNESIM	POTASSIM	SODIUM	AMMONIUM	FREE H+			
				MG/L	MG/L	MG/L	MG/L	MG/L	AS N	LAB			
									MG/L	MG/L			
JAN 2,87	JAN 1,87			0.12	0.21	<T	0.015	<T	0.020	0.030	0.110	0.0631	
JAN 3,87	JAN 2,87			0.24	0.12		0.040		0.025	0.080	0.205	0.0027	
JAN 7,87	JAN 6,87			1.16	0.38		0.150		0.095	0.210	D	0.0525	
JAN 10,87	JAN 9,87			0.22	0.25		0.035		0.040	0.060		0.1148	
JAN 11,87	JAN 10,87			*****	*****		*****		*****	*****		*****	
JAN 15,87	JAN 14,87			0.14	0.24	<T	0.020		0.050	0.040	0.345	0.1023	
JAN 19,87	JAN 18,87			0.24	0.28		0.035	<T	0.015	0.040	0.250	D	0.0741
JAN 20,87	JAN 19,87			0.14	0.04		0.025	<T	0.020	0.035	0.065		0.0039
JAN 23,87	JAN 22,87			0.38	1.10		0.065		0.035	0.260	0.250		0.1072
JAN 30,87	JAN 29,87			0.36	0.44		0.060		0.030	0.125	0.730		0.1585
JAN 31,87	JAN 30,87			0.10	0.48	<T	0.025		0.050	0.100	0.715		0.1148
FEB 9,87	FEB 8,87			*****	*****		*****		*****	*****	*****		*****
FEB 12,87	FEB 11,87			0.94	0.65		0.130		0.040	0.265	0.480		0.0912
FEB 13,87	FEB 12,87			0.34	0.49		0.040	<T	0.020	0.360	0.375		0.0468
FEB 14,87	FEB 13,87			*****	*****		*****		*****	*****	*****		*****
FEB 23,87	FEB 22,87	UG		3.60	1.11		0.555		0.040	0.455	1.000		0.1585
FEB 28,87	FEB 27,87			1.26	1.28		0.175		0.225	0.620	0.415	<#>	0.1778
MAR 1,87	FEB 28,87			0.12	0.15	<T	0.025	<T	0.015	0.055	0.165		0.0490
MAR 2,87	MAR 1,87			0.20	0.17	<T	0.025		0.035	0.050	0.250		0.0363
MAR 4,87	MAR 3,87			*****	*****		*****		*****	*****	*****		*****
MAR 12,87	MAR 11,87			*****	*****		*****		*****	*****	*****		*****
MAR 14,87	MAR 13,87			0.52	0.21		0.080		0.030	0.065	0.100		0.0407
MAR 15,87	MAR 14,87			0.12	0.21	<T	0.015		0.030	0.100	0.035		0.0309
MAR 25,87	MAR 24,87			1.84	0.47		0.280		0.100	0.220	!IS	*****	0.0437
MAR 26,87	MAR 25,87			1.94	0.51		0.340		0.135	0.235	!IS	*****	0.0513
MAR 27,87	MAR 26,87			0.58	0.61		0.100		0.090	0.125	1.970		0.0813
MAR 30,87	MAR 29,87			0.14	0.12		0.030		0.030	0.045	0.455		0.0490
MAR 31,87	MAR 30,87	<T		0.08	0.09	<T	0.015		0.055	0.065	0.110		0.0110
APR 1,87	MAR 31,87			*****	*****		*****		*****	*****	*****		*****
APR 2,87	APR 1,87	D		1.04	D	0.62	D	0.155	D	0.160	0.900		0.0933
APR 5,87	APR 4,87	<T		0.04	D	0.08	<T	0.010	<T	0.040	D	0.240	0.0151
APR 6,87	APR 5,87			0.10		0.34		0.030		0.050	0.200		0.0288
APR 7,87	APR 6,87			*****	*****		*****		*****	*****	*****		*****
APR 12,87	APR 11,87			0.28	0.21		0.035	<W	0.005	<T	0.010		0.0355
APR 13,87	APR 12,87			0.14	0.22	<T	0.015	<T	0.015	0.025	0.470		0.0389
APR 14,87	APR 13,87			*****	*****		*****		*****	*****	*****		*****
APR 15,87	APR 14,87			0.78	0.52		0.100		0.085	0.130	1.000		0.2138
APR 23,87	APR 22,87	U		10.40	UG	1.85	U	1.620	B	0.510	0.510	D	0.1230
APR 24,87	APR 23,87			0.72	0.42		0.100		0.095	0.150	1.250		0.1549
APR 28,87	APR 27,87			0.68	0.29		0.115		0.065	0.050	0.760	D	0.0155

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
APR 29,87	APR 28,87	800 800	930 1200	1	0.2	1	61413	2	1	****	E N
MAY 11,87	MAY 10,87	800 800	1430 1530	1	0.2	1	61414	2	1	****	E N
MAY 12,87	MAY 11,87	800 800	2200 2230	1	2.2	1	61415	2	1	U 96	FJCB JH
MAY 15,87	MAY 14,87	800 800	****	1	19.0	1	61416	2	1	58	
MAY 18,87	MAY 17,87	800 800	****	1	3.2	1	61417	2	1	90	AB
MAY 19,87	MAY 18,87	800 800	900 1200	1	1.4	1	61418	2	1	61	
MAY 20,87	MAY 19,87	800 800	****	1	1.0	1	61420	2	1	76	
MAY 25,87	MAY 24,87	800 800	****	1	0.3	1	61421	2	1	****	E N
MAY 26,87	MAY 25,87	800 800	****	1	0.2	1	61422	2	1	****	E N
MAY 27,87	MAY 26,87	800 800	1500 1530	1	3.6	1	61423	2	1	94	
MAY 31,87	MAY 30,87	800 800	2300	1	0.6	1	61424	2	1	36	N
JUN 1,87	MAY 31,87	800 800	1700 1730	1	7.8	1	61425	2	1	102	
JUN 3,87	JUN 2,87	800 800	****	1	4.0	1	61426	2	1	88	BCD JHM
JUN 7,87	JUN 6,87	800 800	2200 2230	1	0.4	1	61427	2	1	89	
JUN 12,87	JUN 11,87	800 800	100 500	1	23.2	1	61428	2	1	27	N
JUN 14,87	JUN 13,87	800 800	2100 2400	1	0.8	1	61429	2	1	62	H
JUN 22,87	JUN 21,87	800 800	****	1	18.0	1	61430	2	1	104	
JUN 23,87	JUN 22,87	800 800	****	1	1.0	1	61431	2	1	56	A
JUN 26,87	JUN 25,87	800 800	****	1	3.6	1	61432	2	1	87	C
JUN 27,87	JUN 26,87	800 800	****	1	1.3	1	61433	2	1	69	
JUN 28,87	JUN 27,87	800 800	****	1	1.4	1	61434	2	1	45	NH
JUN 30,87	JUN 29,87	800 800	****	1	1.4	1	61435	2	1	85	
JUL 1,87	JUN 30,87	800 800	****	1	0.8	1	61436	2	1	64	
JUL 4,87	JUL 3,87	800 800	****	1	1.4	1	61437	2	1	109	C
JUL 6,87	JUL 5,87	800 800	****	1	0.2	1	61438	2	1	****	E N
JUL 10,87	JUL 9,87	800 800	****	1	4.0	1	61439	2	1	103	
JUL 11,87	JUL 10,87	800 800	****	1	0.2	1	61440	2	1	****	E N
JUL 14,87	JUL 13,87	800 800	2000 500	1	18.4	1	61441	2	1	37	NJ
AUG 2,87	AUG 1,87	800 800	****	1	0.1	1	61442	2	1	****	E N
AUG 3,87	AUG 2,87	930 800	800 1000	1	37.2	1	61443	2	1	99	J
AUG 8,87	AUG 7,87	800 800	1900 2000	1	1.6	1	61444	2	1	77	
AUG 9,87	AUG 8,87	800 1200	1800 1200	1	31.0	1	61445	2	1	108	
AUG 18,87	AUG 17,87	800 800	1830 2030	1	2.2	1	61446	2	1	95	X
AUG 22,87	AUG 21,87	800 800	2130 2330	1	7.6	1	61447	2	1	95	
AUG 27,87	AUG 26,87	800 800	****	1	17.0	1	61448	2	1	114	
AUG 28,87	AUG 27,87	800 800	****	1	1.6	1	61449	2	1	85	
AUG 29,87	AUG 28,87	800 800	1000 2000	1	1.2	1	61450	2	1	93	
AUG 31,87	AUG 30,87	800 800	2400 500	1	1.4	1	61451	2	1	93	
SEP 2,87	SEP 1,87	800 800	100 400	1	5.4	1	61453	2	1	103	
SEP 12,87	SEP 11,87	800 800	1100 1400	1	9.0	1	61454	2	1	101	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
APR 29,87	APR 28,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 11,87	MAY 10,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 12,87	MAY 11,87	136.0	42.4	UG	6.66	UG	7.37	*****	0.94
MAY 15,87	MAY 14,87	710.0	35.8		4.10		4.33	*****	0.66
MAY 18,87	MAY 17,87	186.0	93.1		3.51		3.67	*****	1.77
MAY 19,87	MAY 18,87	55.0	93.1		*****		3.65	*****	1.36
MAY 20,87	MAY 19,87	49.0	D	46.0	*****	D	4.25	*****	1.31
MAY 25,87	MAY 24,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 26,87	MAY 25,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 27,87	MAY 26,87	217.0	58.2	*****			3.94	*****	1.10
MAY 31,87	MAY 30,87	14.0	49.6	*****			4.08	D	1.09
JUN 1,87	MAY 31,87	512.0	40.9		4.04		4.15	*****	0.68
JUN 3,87	JUN 2,87	227.0	41.4	UG	6.55	UG	7.23	*****	0.34
JUN 7,87	JUN 6,87	23.0	D	49.0	*****		5.58	*****	2.10
JUN 12,87	JUN 11,87	408.0		29.1	4.11		4.21	*****	0.36
JUN 14,87	JUN 13,87	32.0		24.5	*****		6.12	*****	0.85
JUN 22,87	JUN 21,87	1209.0	D	46.0	D	4.00	D	3.97	0.55
JUN 23,87	JUN 22,87	36.0	>	100.0	*****		3.57	*****	2.00
JUN 26,87	JUN 25,87	203.0	>	100.0	3.52		3.52	*****	1.75
JUN 27,87	JUN 26,87	58.0		26.9	*****		4.83	*****	0.90
JUN 28,87	JUN 27,87	41.0		22.2	*****		4.71	*****	0.55
JUN 30,87	JUN 29,87	77.0		73.9	*****		3.83	*****	1.50
JUL 1,87	JUN 30,87	33.0		23.8	*****		4.58	*****	0.80
JUL 4,87	JUL 3,87	98.0		72.3	*****		3.86	*****	1.05
JUL 6,87	JUL 5,87	*****	*****	*****	*****	*****	*****	D	9.05
JUL 10,87	JUL 9,87	266.0	47.9	*****			4.00	*****	0.85
JUL 11,87	JUL 10,87	*****	*****	*****	*****	*****	*****	*****	*****
JUL 14,87	JUL 13,87	445.0		24.9	D	3.72	4.31	*****	0.50
AUG 2,87	AUG 1,87	*****	*****	*****	*****	*****	*****	*****	*****
AUG 3,87	AUG 2,87	2375.0		23.5	3.90		4.39	*****	0.40
AUG 8,87	AUG 7,87	79.0		56.0	*****		4.55	*****	2.45
AUG 9,87	AUG 8,87	2155.0		42.0	3.88		4.02	*****	0.44
AUG 18,87	AUG 17,87	135.0	*****	*****	*****	*****	*****	*****	*****
AUG 22,87	AUG 21,87	467.0	*****	3.80	*****	*****	*****	*****	*****
AUG 27,87	AUG 26,87	1253.0		33.0	3.97		4.11	*****	0.54
AUG 28,87	AUG 27,87	88.0		20.5	*****		4.75	*****	0.85
AUG 29,87	AUG 28,87	72.0		16.0	*****		4.94	*****	0.45
AUG 31,87	AUG 30,87	84.0		46.5	*****		4.15	D	0.95
SEP 2,87	SEP 1,87	357.0	D	8.5	*****		4.95	*****	0.23
SEP 12,87	SEP 11,87	583.0		99.0	3.54		3.63	*****	1.15

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
APR 29,87	APR 28,87	*****	*****	*****	*****	*****	*****	*****
MAY 11,87	MAY 10,87	*****	*****	*****	*****	*****	*****	*****
MAY 12,87	MAY 11,87	2.88	0.41	0.610	U 1.860	0.090	1.930	UG 0.0000
MAY 15,87	MAY 14,87	0.66	0.17	0.115	D 0.115	<T 0.020	0.910	0.0468
MAY 18,87	MAY 17,87	1.68	0.41	0.310	0.195	0.055	1.630	0.2138
MAY 19,87	MAY 18,87	0.38	0.33	0.065	0.050	0.050	UG 2.750	0.2239
MAY 20,87	MAY 19,87	1.18	0.24	0.250	D 0.070	0.050	D 1.000	D 0.0562
MAY 25,87	MAY 24,87	*****	*****	*****	*****	*****	*****	*****
MAY 26,87	MAY 25,87	*****	*****	*****	*****	*****	*****	*****
MAY 27,87	MAY 26,87	0.60	0.21	0.085	0.050	0.040	0.600	0.1148
MAY 31,87	MAY 30,87	0.82	0.27	0.170	0.120	0.095	0.550	0.0832
JUN 1,87	MAY 31,87	0.58	0.12	0.090	0.100	0.045	0.605	0.0708
JUN 3,87	JUN 2,87	1.70	0.23	0.490	U 4.270	0.075	1.350	UG 0.0001
JUN 7,87	JUN 6,87	2.80	D 0.57	0.585	0.165	0.070	2.200	0.0026
JUN 12,87	JUN 11,87	0.22	<T 0.02	0.035	0.025	<T 0.020	0.205	0.0617
JUN 14,87	JUN 13,87	0.98	0.22	0.210	0.085	0.065	1.350	0.0008
JUN 22,87	JUN 21,87	D 0.10	0.15	<T 0.015	<T 0.015	D 0.025	0.375	D 0.1072
JUN 23,87	JUN 22,87	!IS *****	0.40	!IS *****	!IS *****	!IS *****	UG 3.850	0.2692
JUN 26,87	JUN 25,87	0.48	0.35	0.125	0.050	0.035	0.740	0.3020
JUN 27,87	JUN 26,87	1.24	0.30	0.220	0.100	0.050	0.835	0.0148
JUN 28,87	JUN 27,87	0.92	0.25	0.190	0.040	0.040	D 0.590	0.0195
JUN 30,87	JUN 29,87	1.10	0.35	0.235	0.065	0.070	0.770	0.1479
JUL 1,87	JUN 30,87	0.42	0.25	0.090	0.030	0.030	0.710	0.0263
JUL 4,87	JUL 3,87	1.22	0.25	0.210	D 0.140	0.045	0.950	0.1380
JUL 6,87	JUL 5,87	*****	*****	*****	*****	*****	*****	*****
JUL 10,87	JUL 9,87	0.66	0.25	0.125	0.170	0.055	0.370	0.1000
JUL 11,87	JUL 10,87	*****	*****	*****	*****	*****	*****	*****
JUL 14,87	JUL 13,87	0.28	0.15	0.050	0.035	<T 0.020	0.330	0.0490
AUG 2,87	AUG 1,87	*****	*****	*****	*****	*****	*****	*****
AUG 3,87	AUG 2,87	0.28	0.10	0.040	0.025	0.025	0.500	0.0407
AUG 8,87	AUG 7,87	3.76	0.60	0.805	0.145	0.085	1.400	0.0282
AUG 9,87	AUG 8,87	0.22	0.10	0.035	<W 0.005	0.030	0.355	0.0955
AUG 18,87	AUG 17,87	*****	*****	*****	*****	*****	*****	*****
AUG 22,87	AUG 21,87	*****	*****	*****	*****	*****	*****	*****
AUG 27,87	AUG 26,87	0.12	0.11	0.025	<W 0.005	<T 0.020	0.155	0.0776
AUG 28,87	AUG 27,87	1.34	0.16	0.100	0.050	0.055	0.250	0.0178
AUG 29,87	AUG 28,87	0.74	0.13	0.105	0.030	0.025	0.460	0.0115
AUG 31,87	AUG 30,87	0.74	0.19	0.125	0.130	0.030	1.100	0.0708
SEP 2,87	SEP 1,87	0.14	<T 0.05	<T 0.020	<T 0.020	<T 0.015	0.190	0.0112
SEP 12,87	SEP 11,87	0.34	0.32	0.040	0.040	0.030	0.715	0.2344



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
SEP 13,87	SEP 12,87	800 800	300 500	1	14.6	1	61455	2	1	99	
SEP 17,87	SEP 16,87	800 800	1430 ****	1	4.4	1	61456	2	1	88	
SEP 18,87	SEP 17,87	800 800	**** ****	1	16.8	1	61457	2	1	105	
SEP 20,87	SEP 18,87	800 800	**** ****	1	9.6	1	61458	2	1	93	Y2
SEP 21,87	SEP 20,87	800 800	2200 200	1	12.8	1	61459	2	1	105	
SEP 22,87	SEP 21,87	800 800	**** ****	1	7.8	1	61460	2	1	95	
SEP 23,87	SEP 22,87	800 800	**** ****	1	0.2	1	61461	2	1	****	E N
SEP 30,87	SEP 29,87	800 800	**** ****	1	4.2	1	61462	2	1	94	
OCT 1,87	SEP 30,87	800 800	**** ****	1	3.0	1	61463	2	1	84	
OCT 2,87	OCT 1,87	800 800	**** ****	1	1.8	1	61464	2	1	74	
OCT 3,87	OCT 2,87	800 800	**** ****	1	4.6	1	61465	2	1	85	
OCT 5,87	OCT 4,87	800 800	**** ****	1	1.4	1	61466	2	1	80	
OCT 7,87	OCT 6,87	800 800	**** ****	1	****	1	61467	2	1	****	
OCT 8,87	OCT 7,87	800 800	**** ****	1	****	1	61468	2	1	****	H
OCT 11,87	OCT 10,87	800 800	**** ****	1	9.6	1	61469	2	1	95	HM
OCT 17,87	OCT 16,87	800 800	**** ****	1	5.4	1	61470	2	1	89	
OCT 21,87	OCT 20,87	800 800	**** ****	1	2.8	1	61471	2	1	86	
OCT 22,87	OCT 21,87	800 800	**** ****	1	1.8	1	61472	2	1	55	
OCT 23,87	OCT 22,87	800 800	**** ****	1	11.4	1	61473	2	1	87	
OCT 24,87	OCT 23,87	800 800	**** ****	1	1.4	1	61474	2	1	50	
OCT 25,87	OCT 24,87	800 800	**** ****	1	15.0	1	61475	2	1	91	
OCT 27,87	OCT 26,87	800 800	**** ****	1	14.1	1	61476	2	1	97	
OCT 28,87	OCT 27,87	800 800	**** ****	1	3.0	1	61477	2	1	75	
NOV 1,87	OCT 31,87	800 1500	**** ****	1	4.0	1	61478	2	1	95	
NOV 3,87	NOV 2,87	800 800	**** ****	1	0.6	1	61479	2	1	88	
NOV 4,87	NOV 3,87	800 800	**** ****	1	1.6	1	61480	2	1	92	
NOV 5,87	NOV 4,87	800 800	**** ****	1	0.6	1	61481	2	1	57	
NOV 6,87	NOV 5,87	800 800	**** ****	1	2.1	1	61482	2	1	49	NH
NOV 8,87	NOV 7,87	800 800	**** ****	1	4.2	1	61483	2	1	83	
NOV 9,87	NOV 8,87	800 800	**** ****	1	2.8	1	61484	2	1	110	
NOV 14,87	NOV 13,87	800 800	2000 200	1	1.4	1	61485	2	1	43	N
NOV 18,87	NOV 17,87	800 800	830 1000	1	2.6	1	61486	2	1	63	JH
NOV 19,87	NOV 18,87	800 800	1430 ****	1	0.6	1	61487	2	1	28	NH
NOV 21,87	NOV 20,87	800 800	**** ****	2	2.5	2	61488	2	1	266	NJHCM
NOV 22,87	NOV 21,87	800 800	**** ****	2	****	2	61489	2	1	****	P JC
NOV 25,87	NOV 24,87	800 800	2400 600	1	11.0	2	61490	2	1	104	J
NOV 26,87	NOV 25,87	800 800	800 1900	1	38.0	2	61491	2	1	90	JM
NOV 28,87	NOV 27,87	800 1700	**** ****	1	1.6	2	61492	2	1	67	
NOV 29,87	NOV 28,87	1700 800	1500 600	1	****	2	61493	2	1	****	J
NOV 30,87	NOV 29,87	800 800	**** ****	1	2.4	2	61494	2	1	117	J



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
SEP 13,87	SEP 12,87	928.0	66.0	3.71	3.84	*****	0.1760	7.10	0.78
SEP 17,87	SEP 16,87	250.0	37.5	3.98	4.14	*****	0.0959	3.50	0.52
SEP 18,87	SEP 17,87	1132.0	37.5	*****	4.13	*****	0.1000	3.20	0.52
SEP 20,87	SEP 18,87	574.0	18.0	*****	4.41	*****	0.0578	1.45	0.32
SEP 21,87	SEP 20,87	868.0	40.0	*****	4.22	*****	0.1020	3.70	0.86
SEP 22,87	SEP 21,87	479.0	15.0	*****	5.03	*****	0.0309	1.85	0.56
SEP 23,87	SEP 22,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 30,87	SEP 29,87	255.0	70.0	3.98	3.94	*****	0.1560	8.90	0.93
OCT 1,87	SEP 30,87	162.0	4.0	UG	5.32	*****	0.0195	B 0.80	LG 0.07
OCT 2,87	OCT 1,87	86.0	44.0	*****	7.18	*****	0.0175	D 7.90	1.26
OCT 3,87	OCT 2,87	253.0	8.0	UG	5.24	*****	D 0.0226	D 1.75	0.21
OCT 5,87	OCT 4,87	72.0	33.0	*****	4.46	*****	0.0631	4.05	1.15
OCT 7,87	OCT 6,87	40.0	17.0	*****	5.17	*****	0.0301	4.05	0.51
OCT 8,87	OCT 7,87	179.0	11.0	*****	5.40	*****	0.0305	D 2.90	0.26
OCT 11,87	OCT 10,87	589.0	3.5	*****	5.64	*****	0.0190	0.90	0.20
OCT 17,87	OCT 16,87	311.0	19.0	*****	4.40	*****	0.0630	2.50	0.33
OCT 21,87	OCT 20,87	156.0	59.0	*****	3.93	*****	D 0.1520	D 5.45	1.98
OCT 22,87	OCT 21,87	64.0	29.0	*****	4.21	*****	D 0.0887	2.20	1.03
OCT 23,87	OCT 22,87	641.0	17.0	*****	4.49	*****	D 0.0559	2.00	0.57
OCT 24,87	OCT 23,87	45.0	68.0	*****	4.09	*****	0.1290	9.50	2.39
OCT 25,87	OCT 24,87	881.0	18.0	*****	4.40	*****	0.0642	1.90	0.31
OCT 27,87	OCT 26,87	885.0	28.0	*****	4.20	*****	0.0944	2.00	0.59
OCT 28,87	OCT 27,87	146.0	20.0	4.33	4.38	*****	0.0660	1.85	0.37
NOV 1,87	OCT 31,87	245.0	60.0	3.91	3.91	*****	0.1640	4.80	1.63
NOV 3,87	NOV 2,87	34.0	94.0	*****	3.70	*****	0.2530	UG 11.70	1.31
NOV 4,87	NOV 3,87	95.0	34.0	*****	4.16	*****	0.1000	4.30	0.48
NOV 5,87	NOV 4,87	22.0	12.0	*****	5.07	*****	0.0301	2.00	0.54
NOV 6,87	NOV 5,87	67.0	9.0	*****	6.43	*****	0.0164	D 2.10	0.19
NOV 8,87	NOV 7,87	225.0	38.0	4.07	4.15	*****	D 0.1070	D 4.60	0.79
NOV 9,87	NOV 8,87	199.0	42.0	3.97	4.05	*****	D 0.1300	4.45	0.80
NOV 14,87	NOV 13,87	39.0	28.0	*****	5.05	*****	0.0378	5.70	0.89
NOV 18,87	NOV 17,87	106.0	22.0	3.95	4.48	*****	0.0632	3.75	0.51
NOV 19,87	NOV 18,87	11.0	7.0	*****	6.61	*****	0.0207	1.30	0.27
NOV 21,87	NOV 20,87	427.0	1.0	UG	5.30	*****	0.0168	LG 0.40	<T 0.02
NOV 22,87	NOV 21,87	536.0	2.0	4.98	6.12	*****	0.0201	0.60	<T 0.04
NOV 25,87	NOV 24,87	735.0	19.0	3.61	4.33	*****	0.0640	1.60	0.33
NOV 26,87	NOV 25,87	2202.0	16.0	D 3.63	4.38	*****	0.0585	1.45	0.21
NOV 28,87	NOV 27,87	69.0	49.0	*****	3.89	*****	0.1470	4.30	0.71
NOV 29,87	NOV 28,87	596.0	12.0	3.68	4.52	*****	0.0475	0.80	0.24
NOV 30,87	NOV 29,87	180.0	42.0	3.54	3.97	*****	0.1350	2.85	0.74

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 9

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
SEP 13,87	SEP 12,87	0.12	0.14	<T 0.015	0.030	<T 0.015	0.690	0.1445
SEP 17,87	SEP 16,87	0.22	0.18	0.045	0.045	0.040	0.290	0.0724
SEP 18,87	SEP 17,87	<T 0.08	0.10	<T 0.010	<T 0.005	<T 0.015	0.415	0.0741
SEP 20,87	SEP 18,87	<W 0.02	<W 0.01	<W 0.005	<W 0.005	<W 0.005	LG 0.100	0.0389
SEP 21,87	SEP 20,87	0.38	D 0.47	0.065	0.050	<T 0.010	0.800	0.0603
SEP 22,87	SEP 21,87	0.38	0.09	0.075	<T 0.020	<W 0.005	0.620	0.0093
SEP 23,87	SEP 22,87	*****	*****	*****	*****	*****	*****	*****
SEP 30,87	SEP 29,87	1.12	0.40	0.170	0.140	0.095	0.820	0.1148
OCT 1,87	SEP 30,87	<T 0.10	<T 0.05	<T 0.015	0.045	<T 0.015	0.160	0.0025
OCT 2,87	OCT 1,87	3.20	D 0.53	D 0.425	0.260	UG 0.390	1.400	UG 0.0001
OCT 3,87	OCT 2,87	0.42	0.15	0.085	0.050	0.025	0.340	0.0037
OCT 5,87	OCT 4,87	1.56	0.20	0.270	0.135	0.095	0.540	0.0347
OCT 7,87	OCT 6,87	!IS *****	0.25	!IS *****	!IS *****	!IS *****	0.850	0.0068
OCT 8,87	OCT 7,87	0.16	0.29	0.030	0.060	0.035	0.785	0.0040
OCT 11,87	OCT 10,87	0.12	<T 0.01	<T 0.020	<T 0.015	<T 0.020	0.185	0.0023
OCT 17,87	OCT 16,87	0.12	0.14	<T 0.025	0.025	0.025	0.300	0.0398
OCT 21,87	OCT 20,87	0.78	0.58	0.125	0.080	0.040	D 1.150	D 0.1175
OCT 22,87	OCT 21,87	0.26	0.36	0.050	D 0.050	0.025	0.515	D 0.0617
OCT 23,87	OCT 22,87	0.22	0.13	0.030	<T 0.015	<T 0.015	0.440	D 0.0324
OCT 24,87	OCT 23,87	!IS *****	UG 0.93	!IS *****	!IS *****	!IS *****	1.150	0.0813
OCT 25,87	OCT 24,87	0.12	0.13	<T 0.020	0.030	<T 0.020	D 0.185	0.0398
OCT 27,87	OCT 26,87	<T 0.08	0.16	<T 0.020	<T 0.015	<T 0.020	0.230	0.0631
OCT 28,87	OCT 27,87	<T 0.08	0.10	<T 0.020	0.025	<T 0.020	D 0.185	0.0417
NOV 1,87	OCT 31,87	0.64	UG 0.92	0.095	0.065	0.140	0.645	0.1230
NOV 3,87	NOV 2,87	0.86	0.63	0.120	0.055	0.270	1.050	0.1995
NOV 4,87	NOV 3,87	0.26	0.30	0.050	<T 0.025	0.110	0.440	0.0692
NOV 5,87	NOV 4,87	0.38	0.20	0.065	!IS *****	!IS *****	0.735	0.0085
NOV 6,87	NOV 5,87	D 0.58	D 0.73	D 0.145	B 1.300	0.050	B 0.020	0.0004
NOV 8,87	NOV 7,87	0.90	0.52	0.120	D 0.085	D 0.130	D 0.420	0.0708
NOV 9,87	NOV 8,87	0.50	0.37	0.065	0.090	0.100	0.390	0.0891
NOV 14,87	NOV 13,87	1.82	0.39	0.315	0.135	0.085	0.850	0.0089
NOV 18,87	NOV 17,87	0.60	D 0.48	0.110	D 0.115	D 0.205	0.315	0.0331
NOV 19,87	NOV 18,87	0.26	0.21	0.055	D 0.085	0.045	0.515	B 0.0002
NOV 21,87	NOV 20,87	0.18	0.21	0.035	0.035	0.100	<T 0.020	0.0005
NOV 22,87	NOV 21,87	0.18	0.21	0.040	0.085	0.100	0.070	0.0008
NOV 25,87	NOV 24,87	0.16	0.09	0.025	<T 0.015	0.035	0.115	0.0468
NOV 26,87	NOV 25,87	<T 0.04	0.05	<T 0.005	<T 0.015	<T 0.015	0.170	D 0.0417
NOV 28,87	NOV 27,87	0.34	0.41	0.070	<T 0.015	0.125	0.105	0.1288
NOV 29,87	NOV 28,87	<T 0.04	<T 0.03	<T 0.005	<W 0.005	<T 0.005	LG 0.050	0.0302
NOV 30,87	NOV 29,87	0.12	0.43	<T 0.020	0.085	0.100	0.140	0.1072

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : MELBOURNE/DAILY/AEROCHEM

#01

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
DEC 1,87	NOV 30,87	800 800	100 800	3	0.4	2	61495	2	1	156	N
DEC 2,87	DEC 1,87	800 800	2200 500	2	2.4	2	61496	2	1	57	H
DEC 3,87	DEC 2,87	800 800	****	2	0.8	2	61497	2	1	58	
DEC 4,87	DEC 3,87	800 800	1200 2000	2	5.4	2	61498	2	1	75	J
DEC 5,87	DEC 4,87	800 800	200 800	2	5.4	2	61499	2	1	72	JC
DEC 6,87	DEC 5,87	800 800	****	1	0.8	2	61500	2	1	****	E N
DEC 9,87	DEC 8,87	800 800	500 800	1	4.0	2	61501	2	1	116	
DEC 10,87	DEC 9,87	800 800	800 1000	1	4.4	2	61502	2	1	108	
DEC 12,87	DEC 11,87	800 800	1900 200	1	7.6	2	61503	2	1	89	
DEC 15,87	DEC 14,87	800 800	200 800	3	11.8	2	61504	2	1	77	
DEC 16,87	DEC 15,87	800 800	****	3	5.2	2	61505	2	1	172	N
DEC 20,87	DEC 19,87	800 1000	1630 500	1	15.8	2	61506	2	1	102	
DEC 25,87	DEC 24,87	800 1100	1200 2200	1	7.8	2	61507	2	1	86	
DEC 30,87	DEC 29,87	800 800	****	2	0.8	2	61508	2	1	44	N
DEC 31,87	DEC 30,87	800 800	500 800	3	0.2	2	61509	2	1	****	E N

#01

PAGE : 11

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#01

**PAGE : 12**

[illegible]

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 2,87	JAN 1,87	800 800	2400 800	2	1.8	2	63637	2	1	18	N
JAN 3,87	JAN 2,87	800 800	800 200	2	4.0	2	63639	2	1	34	NHM
JAN 7,87	JAN 6,87	800 800	2200 100	3	1.3	2	63640	2	1	108	
JAN 8,87	JAN 7,87	800 800	1000 2400	2	0.3	2	63641	2	1	20	E N
JAN 10,87	JAN 9,87	800 800	2400 2400	2	13.0	2	63642	2	1	85	M
JAN 12,87	JAN 11,87	800 800	****	2	2.0	2	63643	2	1	46	N
JAN 13,87	JAN 12,87	800 800	900 1200	2	1.1	2	63644	2	1	48	NH
JAN 15,87	JAN 14,87	800 800	1900 2400	1	2.0	2	63645	2	1	145	NTHM
JAN 17,87	JAN 16,87	800 800	900 1500	2	0.1	2	63646	2	1	31	E N
JAN 18,87	JAN 17,87	800 900	2300 900	2	7.8	2	63647	2	1	81	
JAN 19,87	JAN 18,87	900 800	900 1300	2	1.3	2	63648	2	1	62	D H
JAN 20,87	JAN 19,87	800 800	1300 2000	2	10.9	2	63649	2	1	47	NC
JAN 21,87	JAN 20,87	800 800	1600 800	2	1.5	2	63650	2	1	42	N
JAN 22,87	JAN 21,87	800 800	800 1500	2	0.4	2	63651	2	1	31	N
JAN 23,87	JAN 22,87	800 800	2000 800	2	1.6	1	63652	2	1	48	NH
JAN 24,87	JAN 23,87	800 800	800 2400	2	4.9	2	63653	2	1	45	NHCM
JAN 25,87	JAN 24,87	800 800	900 1800	2	0.9	2	63654	2	1	22	NHCM
JAN 28,87	JAN 27,87	800 800	2200 2400	2	0.1	2	63655	2	1	31	E N
JAN 29,87	JAN 28,87	800 800	1600 2400	2	1.5	2	63656	2	1	73	
JAN 30,87	JAN 29,87	800 800	2100 800	3	7.2	2	63657	2	1	81	
JAN 31,87	JAN 30,87	800 900	800 900	3	8.2	2	63658	2	1	71	
FEB 3,87	FEB 2,87	900 800	2100 2400	2	2.1	2	63659	2	1	58	
FEB 4,87	FEB 3,87	800 800	1000 1100	2	0.3	2	63660	2	1	57	
FEB 5,87	FEB 4,87	800 800	800 2400	2	3.1	2	63661	2	1	72	
FEB 9,87	FEB 8,87	800 800	800 1000	2	4.4	2	63662	2	1	57	H
FEB 13,87	FEB 12,87	800 800	1200 2400	2	1.0	2	63663	2	1	46	NH
MAR 1,87	FEB 28,87	800 1200	**** 1200	1	13.6	2	63664	2	1	99	
MAR 2,87	MAR 1,87	1200 800	1200 800	3	6.1	2	63665	2	1	95	
MAR 3,87	MAR 2,87	800 800	800 1700	2	1.9	2	63666	2	1	38	N
MAR 4,87	MAR 3,87	800 800	**** 100	2	0.6	2	63667	2	1	54	C
MAR 13,87	MAR 12,87	800 800	300 600	2	0.1	2	63669	2	1	****	E N
MAR 25,87	MAR 24,87	800 800	2400 2400	1	1.5	2	63671	2	1	111	J
MAR 26,87	MAR 25,87	800 800	1700 2400	1	4.6	2	63672	2	1	118	
MAR 27,87	MAR 26,87	800 800	900 1100	1	1.1	2	63673	2	1	120	N
MAR 28,87	MAR 27,87	800 800	****	1	****	2	63674	2	1	****	E
MAR 30,87	MAR 29,87	800 800	2200 800	1	15.2	2	63675	2	1	117	
MAR 31,87	MAR 30,87	800 800	800 1000	3	20.2	2	63678	2	1	40	NC
APR 1,87	MAR 31,87	800 800	900 2400	2	0.3	2	63679	2	1	20	E N
APR 2,87	APR 1,87	800 800	1200 2900	2	7.3	3	63680	2	1	48	N
APR 4,87	APR 3,87	800 800	****	2	1.4	2	63681	2	1	22	N

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 2,87	JAN 1,87	21.0	17.5	*****	4.78	*****	0.0440	1.55	0.59
JAN 3,87	JAN 2,87	89.0	9.6	*****	4.83	*****	0.0357	LG 0.40	0.26
JAN 7,87	JAN 6,87	90.0	82.0	*****	3.95	*****	0.1650	4.95	2.13
JAN 8,87	JAN 7,87	4.0	*****	*****	*****	*****	*****	*****	*****
JAN 10,87	JAN 9,87	711.0	21.1	4.45	4.30	*****	0.0558	1.10	0.47
JAN 12,87	JAN 11,87	60.0	34.1	*****	4.15	*****	0.0805	2.40	0.81
JAN 13,87	JAN 12,87	34.0	8.7	*****	5.19	*****	0.0238	1.30	0.24
JAN 15,87	JAN 14,87	187.0	52.2	3.99	3.86	*****	0.1280	2.55	1.20
JAN 17,87	JAN 16,87	2.0	*****	*****	*****	*****	*****	*****	*****
JAN 18,87	JAN 17,87	406.0	20.0	4.39	4.36	*****	0.0517	1.10	0.46
JAN 19,87	JAN 18,87	52.0	13.0	*****	5.10	*****	0.0281	0.80	0.64
JAN 20,87	JAN 19,87	334.0	LG 2.5	UG 5.54	5.79	*****	0.0160	<T 0.10	<T 0.04
JAN 21,87	JAN 20,87	41.0	39.6	*****	4.22	*****	0.0777	1.95	1.51
JAN 22,87	JAN 21,87	8.0	8.3	*****	5.34	*****	0.0208	LG 0.35	0.33
JAN 23,87	JAN 22,87	50.0	21.3	*****	5.70	*****	0.0232	1.70	1.01
JAN 24,87	JAN 23,87	142.0	23.0	UG 6.90	UG 7.17	*****	0.0143	0.55	0.35
JAN 25,87	JAN 24,87	13.0	16.6	*****	UG 7.04	*****	0.0147	LG 0.50	0.18
JAN 28,87	JAN 27,87	2.0	*****	*****	*****	*****	*****	*****	*****
JAN 29,87	JAN 28,87	71.0	25.9	*****	D 4.49	*****	0.0603	2.50	0.69
JAN 30,87	JAN 29,87	375.0	27.7	*****	4.28	*****	0.0748	1.50	0.69
JAN 31,87	JAN 30,87	376.0	32.0	*****	4.18	*****	0.0918	1.65	0.72
FEB 3,87	FEB 2,87	79.0	17.7	*****	4.75	*****	D 0.0419	1.45	0.66
FEB 4,87	FEB 3,87	11.0	10.6	*****	5.13	*****	0.0293	0.85	0.35
FEB 5,87	FEB 4,87	144.0	17.9	4.66	4.78	*****	0.0402	1.85	0.53
FEB 9,87	FEB 8,87	162.0	18.6	UG 5.60	6.04	*****	0.0238	2.10	0.86
FEB 13,87	FEB 12,87	30.0	27.6	*****	5.00	*****	0.0393	2.70	1.30
MAR 1,87	FEB 28,87	866.0	27.7	4.22	4.33	*****	0.0753	2.05	0.44
MAR 2,87	MAR 1,87	373.0	21.7	4.37	4.49	*****	0.0578	1.30	0.43
MAR 3,87	MAR 2,87	47.0	7.6	*****	6.43	*****	0.0167	0.95	0.25
MAR 4,87	MAR 3,87	21.0	8.7	*****	UG 7.08	*****	0.0152	0.55	LG 0.08
MAR 13,87	MAR 12,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 25,87	MAR 24,87	107.0	24.7	UG 5.47	UG 6.67	*****	0.0169	4.55	0.89
MAR 26,87	MAR 25,87	349.0	36.7	4.15	4.23	*****	0.0897	3.40	0.99
MAR 27,87	MAR 26,87	85.0	29.6	*****	4.55	*****	0.0623	3.60	0.86
MAR 28,87	MAR 27,87	4.0	*****	*****	*****	*****	*****	*****	*****
MAR 30,87	MAR 29,87	1141.0	22.1	4.31	4.43	*****	0.0603	2.10	0.34
MAR 31,87	MAR 30,87	530.0	13.6	4.72	4.97	*****	0.0260	1.00	0.12
APR 1,87	MAR 31,87	4.0	*****	*****	*****	*****	*****	*****	*****
APR 2,87	APR 1,87	226.0	27.2	4.26	4.33	*****	0.0699	1.80	0.69
APR 4,87	APR 3,87	20.0	20.7	*****	4.61	*****	0.0481	2.00	0.45



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 2,87	JAN 1,87	!IS *****	0.28	!IS *****	!IS *****	!IS *****	0.280	0.0166
JAN 3,87	JAN 2,87	0.22	0.08	<T 0.015	<W 0.005	0.030	0.100	0.0148
JAN 7,87	JAN 6,87	0.66	0.43	0.105	0.060	0.155	1.700	0.1122
JAN 8,87	JAN 7,87	*****	*****	*****	*****	*****	*****	*****
JAN 10,87	JAN 9,87	0.12	0.20	0.025	0.025	0.050	0.190	0.0501
JAN 12,87	JAN 11,87	0.14	0.27	<T 0.020	0.050	0.085	0.730	0.0708
JAN 13,87	JAN 12,87	0.24	0.10	0.040	0.030	0.065	0.380	0.0065
JAN 15,87	JAN 14,87	0.18	0.25	<T 0.020	0.030	0.045	0.520	0.1380
JAN 17,87	JAN 16,87	*****	*****	*****	*****	*****	*****	*****
JAN 18,87	JAN 17,87	0.26	0.25	0.075	<T 0.015	0.090	0.065	0.0437
JAN 19,87	JAN 18,87	0.44	0.17	0.080	<T 0.010	0.725	0.080	0.0079
JAN 20,87	JAN 19,87	<T 0.04	<T 0.01	<T 0.010	<W 0.005	<T 0.010	LQ 0.045	0.0016
JAN 21,87	JAN 20,87	1.02	1.04	0.240	0.050	0.540	0.530	0.0603
JAN 22,87	JAN 21,87	0.46	0.40	0.085	<T 0.015	0.120	<T 0.020	0.0046
JAN 23,87	JAN 22,87	1.40	0.91	0.230	0.050	0.460	0.450	0.0020
JAN 24,87	JAN 23,87	2.54	0.93	UG 0.695	0.060	0.255	LQ 0.030	UG 0.0001
JAN 25,87	JAN 24,87	2.24	0.59	0.560	0.040	0.220	<T 0.015	UG 0.0001
JAN 28,87	JAN 27,87	*****	*****	*****	*****	*****	*****	*****
JAN 29,87	JAN 28,87	0.32	0.29	0.055	0.040	0.135	0.815	D 0.0324
JAN 30,87	JAN 29,87	0.38	0.28	0.065	0.105	0.105	0.120	0.0525
JAN 31,87	JAN 30,87	<T 0.06	0.16	<T 0.010	<T 0.010	0.030	0.290	0.0661
FEB 3,87	FEB 2,87	0.40	0.22	0.045	<T 0.015	0.105	D 0.495	0.0178
FEB 4,87	FEB 3,87	0.22	0.19	0.040	0.045	0.110	0.275	0.0074
FEB 5,87	FEB 4,87	0.14	0.19	0.040	<T 0.015	0.065	0.790	0.0166
FEB 9,87	FEB 8,87	0.56	0.36	0.135	0.035	0.145	1.150	0.0009
FEB 13,87	FEB 12,87	1.30	1.25	0.295	0.040	0.540	0.950	0.0100
MAR 1,87	FEB 28,87	<T 0.08	0.09	<T 0.025	<T 0.015	0.030	0.205	0.0468
MAR 2,87	MAR 1,87	<T 0.02	0.27	<T 0.010	0.055	D 0.135	0.260	0.0324
MAR 3,87	MAR 2,87	0.34	0.09	0.070	<T 0.020	0.065	0.390	0.0004
MAR 4,87	MAR 3,87	0.92	0.12	0.260	<T 0.025	0.095	0.170	UG 0.0001
MAR 13,87	MAR 12,87	*****	*****	*****	*****	*****	*****	*****
MAR 25,87	MAR 24,87	1.96	0.49	0.580	0.040	0.205	0.425	UG 0.0002
MAR 26,87	MAR 25,87	0.62	0.24	0.110	0.040	0.065	0.780	0.0589
MAR 27,87	MAR 26,87	0.42	0.38	0.045	0.040	0.045	1.300	0.0282
MAR 28,87	MAR 27,87	*****	*****	*****	*****	*****	*****	*****
MAR 30,87	MAR 29,87	0.14	0.09	0.030	0.025	<T 0.025	0.310	0.0372
MAR 31,87	MAR 30,87	<T 0.08	0.07	<T 0.025	0.035	0.045	0.105	0.0107
APR 1,87	MAR 31,87	*****	*****	*****	*****	*****	*****	*****
APR 2,87	APR 1,87	0.16	0.16	0.030	<T 0.025	0.055	0.385	0.0468
APR 4,87	APR 3,87	0.48	0.25	0.070	0.030	0.075	!IS *****	0.0245

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
APR 5,87	APR 4,87	800 800	1100 800	3	1.9	2	63682	2	1	94	J
APR 6,87	APR 5,87	800 800	800 2400	1	5.7	2	63683	2	1	120	NH
APR 7,87	APR 6,87	800 800	1700 2300	1	0.1	2	63684	2	1	46	E N
APR 12,87	APR 11,87	800 800	2400 800	1	1.6	1	63685	2	1	115	
APR 13,87	APR 12,87	800 800	800 2400	1	14.3	1	63686	2	1	103	Q HM
APR 15,87	APR 14,87	800 800	1500 2400	1	1.4	1	63687	2	1	134	N
APR 16,87	APR 15,87	800 800	****	1	0.1	1	63688	2	1	46	E N
APR 23,87	APR 22,87	800 730	2400 730	1	1.4	1	63689	2	1	74	CDQ
APR 24,87	APR 23,87	730 800	730 1200	1	1.2	1	63690	2	1	75	D C
APR 28,87	APR 24,87	800 800	1500 300	1	7.0	1	63691	2	1	13	CQ NY4
MAY 11,87	MAY 10,87	800 800	2200 300	1	2.4	1	63692	2	1	****	ABCQEJ
MAY 12,87	MAY 11,87	800 800	****	1	0.2	1	63693	2	1	****	EJ
MAY 15,87	MAY 14,87	800 800	1700 2100	1	23.2	1	63694	2	1	94	
MAY 18,87	MAY 17,87	800 800	****	1	8.0	1	63695	2	1	98	
MAY 19,87	MAY 18,87	800 800	800 1200	1	2.2	1	63696	2	1	82	
MAY 20,87	MAY 19,87	800 800	2400 300	1	2.2	1	63697	2	1	95	
MAY 21,87	MAY 20,87	800 800	900 1000	1	0.7	1	63698	2	1	35	N
MAY 22,87	MAY 21,87	800 800	2400 200	1	0.6	1	63699	2	1	62	
MAY 27,87	MAY 26,87	800 800	800 1000	1	3.0	1	63700	2	1	84	
MAY 31,87	MAY 30,87	800 800	2200 100	1	9.0	1	63701	2	1	98	
JUN 2,87	JUN 1,87	800 800	1400 1600	1	6.8	1	63702	2	1	93	
JUN 3,87	JUN 2,87	800 800	****	1	0.6	1	63703	2	1	36	NH
JUN 8,87	JUN 7,87	800 800	900 1000	1	5.8	1	63704	2	1	90	
JUN 9,87	JUN 8,87	800 800	830 1200	1	1.2	1	63705	2	1	80	
JUN 12,87	JUN 11,87	800 800	2000 700	1	10.2	1	63706	2	1	99	
JUN 22,87	JUN 21,87	800 700	2400 630	1	16.9	1	63707	2	1	102	
JUN 23,87	JUN 22,87	700 800	800 1700	1	5.1	1	63710	2	1	86	A
JUN 26,87	JUN 25,87	700 800	200 300	1	1.2	1	63711	2	1	75	HCM
JUN 28,87	JUN 27,87	800 800	200 300	1	1.0	1	63712	2	1	46	NCM
JUL 4,87	JUL 3,87	800 800	1400 1500	1	14.2	1	63713	2	1	48	NH
JUL 7,87	JUL 6,87	800 800	1900 2000	1	5.1	1	63714	2	1	90	
JUL 8,87	JUL 7,87	800 800	2200 2400	1	38.4	1	63715	2	1	99	
JUL 9,87	JUL 8,87	800 800	1500 1700	1	15.9	1	63718	2	1	68	
JUL 11,87	JUL 10,87	800 800	1400 1500	1	13.0	1	63719	2	1	98	
JUL 14,87	JUL 13,87	800 700	2100 100	1	17.2	1	63720	2	1	97	
JUL 20,87	JUL 19,87	800 800	2200 2300	1	13.2	1	63721	2	1	99	
JUL 21,87	JUL 20,87	800 800	2200 2300	1	2.2	1	63722	2	1	89	
JUL 25,87	JUL 24,87	800 800	1900 2400	1	22.7	1	63723	2	1	97	
AUG 3,87	AUG 2,87	700 800	700 1600	1	31.2	1	63726	2	1	102	J
AUG 8,87	AUG 7,87	800 800	1600 1700	1	4.1	1	63727	2	1	82	H

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L					
APR 5,87	APR 4,87	115.0	14.8	B	5.54	D	6.53	*****	0.0164	2.90	0.31			
APR 6,87	APR 5,87	440.0	22.8		4.34		4.54	*****	0.0558	3.30	0.24			
APR 7,87	APR 6,87	3.0	*****	*****	*****	*****	*****	*****	*****	*****	*****			
APR 12,87	APR 11,87	118.0	35.0	D	*****	UG	7.61	*****	0.0106	3.70	0.97			
APR 13,87	APR 12,87	947.0	13.0		*****		4.85	*****	0.0416	2.25	0.41			
APR 15,87	APR 14,87	121.0	66.0		*****		3.95	*****	0.1550	UG	9.65	1.32		
APR 16,87	APR 15,87	3.0	*****	*****	*****	*****	*****	*****	*****	*****	*****			
APR 23,87	APR 22,87	67.0	> 100.0		*****		3.50	*****	UG	0.4110	UG	24.00	UG	4.00
APR 24,87	APR 23,87	58.0	> 100.0		*****		3.49	*****	UG	0.4240	UG	17.00	UG	3.85
APR 28,87	APR 24,87	62.0	41.0		*****	UG	7.76	*****	LG	0.0086		3.70		0.67
MAY 11,87	MAY 10,87	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
MAY 12,87	MAY 11,87	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****	*****
MAY 15,87	MAY 14,87	1412.0	35.8		4.15		4.49	*****	0.0732	5.60		0.76		
MAY 18,87	MAY 17,87	507.0	52.1		3.83		4.05	*****	0.1250	6.45		0.65		
MAY 19,87	MAY 18,87	117.0	27.9	D	4.05		4.38	*****	0.0690	3.15		0.42		
MAY 20,87	MAY 19,87	135.0	64.4		3.78		3.89	*****	0.1550	6.95		0.81		
MAY 21,87	MAY 20,87	16.0	> 100.0		*****		3.61	*****	0.2820	8.40		1.84		
MAY 22,87	MAY 21,87	24.0	84.3		*****		3.87	*****	0.1700	9.65		1.71		
MAY 27,87	MAY 26,87	163.0	84.8		3.80		3.91	*****	0.1610	14.15		1.40		
MAY 31,87	MAY 30,87	566.0	20.9		4.35		4.57	*****	0.0482	2.30		0.51		
JUN 2,87	JUN 1,87	407.0	40.9		*****		4.36	*****	0.0694	5.15		1.14		
JUN 3,87	JUN 2,87	14.0	20.4		*****		5.54	*****	0.0233	3.35		0.75		
JUN 8,87	JUN 7,87	338.0	25.0	UG	6.17		6.71	*****	0.0204	4.05		0.90		
JUN 9,87	JUN 8,87	62.0	28.1		*****	UG	6.81	*****	0.0209	4.20		0.97		
JUN 12,87	JUN 11,87	650.0	50.1		3.85		3.97	*****	0.1240	5.10		0.79		
JUN 22,87	JUN 21,87	1110.0	36.6		4.07		4.17	*****	0.0903	4.30		0.55		
JUN 23,87	JUN 22,87	283.0	42.8		4.01		4.05	*****	0.1130	4.25		0.65		
JUN 26,87	JUN 25,87	58.0	> 100.0		*****		3.41	*****	0.4310	UG	17.55	UG	6.15	
JUN 28,87	JUN 27,87	30.0	D	78.4	*****	UG	6.82	*****	!!S *****	0.95	LG	0.10		
JUL 4,87	JUL 3,87	438.0	28.7		4.25		4.35	*****	0.0655	3.90		0.40		
JUL 7,87	JUL 6,87	295.0	D	56.9	3.89		3.94	*****	D	0.1380	5.50		1.05	
JUL 8,87	JUL 7,87	2446.0	24.0		4.22		4.35	*****	0.0629	2.25		0.50		
JUL 9,87	JUL 8,87	694.0	54.3		3.89		3.94	*****	0.1360	5.20		0.90		
JUL 11,87	JUL 10,87	821.0	19.7		4.41		4.46	*****	0.0521	2.35		0.35		
JUL 14,87	JUL 13,87	1077.0	15.2		4.43		4.55	*****	0.0443	1.70		0.30		
JUL 20,87	JUL 19,87	844.0	27.1		4.24		4.51	*****	0.0546	4.80		0.45		
JUL 21,87	JUL 20,87	126.0	31.3		4.12		4.29	*****	0.0730	D	3.95		0.65	
JUL 25,87	JUL 24,87	1424.0	63.0		*****		3.87	*****	0.1670	9.00		0.63		
AUG 3,87	AUG 2,87	2058.0	18.0		4.25	D	4.78	*****	0.0399	3.40		0.38		
AUG 8,87	AUG 7,87	217.0	39.0	UG	6.63	B	7.19	*****	0.0196	7.40		1.65		

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 6

REMOVAL DATE	EXPOSURE DATE		CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
APR 5,87	APR 4,87	D	0.98	0.40	D 0.215	0.035	0.245	0.460	D 0.0003
APR 6,87	APR 5,87		0.30	0.32	0.065	0.030	0.210	0.645	0.0288
APR 7,87	APR 6,87		*****	*****	*****	*****	*****	*****	*****
APR 12,87	APR 11,87	B	3.94	0.39	B 0.800	0.080	0.080	0.700	UG 0.0000
APR 13,87	APR 12,87	D	0.96	0.16	0.130	0.075	<T 0.025	0.380	0.0141
APR 15,87	APR 14,87		1.92	0.56	0.445	0.145	0.220	0.850	0.1122
APR 16,87	APR 15,87		*****	*****	*****	*****	*****	*****	*****
APR 23,87	APR 22,87	U	7.52	UG 1.65	U 1.590	0.310	0.335	UG 2.450	0.3162
APR 24,87	APR 23,87		1.96	1.22	0.290	0.220	0.390	UG 2.750	0.3236
APR 28,87	APR 24,87	UG	4.14	0.52	UG 0.930	0.215	0.110	1.300	UG 0.0000
MAY 11,87	MAY 10,87		*****	*****	*****	*****	*****	*****	*****
MAY 12,87	MAY 11,87		*****	*****	*****	*****	*****	*****	*****
MAY 15,87	MAY 14,87		1.12	0.21	0.190	0.035	<T 0.025	0.890	0.0324
MAY 18,87	MAY 17,87		0.48	0.13	0.090	0.030	<T 0.020	0.820	0.0891
MAY 19,87	MAY 18,87	<T	0.08	0.19	<T 0.010	0.070	0.095	0.620	0.0417
MAY 20,87	MAY 19,87		0.52	0.29	0.125	0.030	0.035	0.630	0.1288
MAY 21,87	MAY 20,87		0.28	0.28	0.040	0.035	0.060	0.900	0.2455
MAY 22,87	MAY 21,87		1.44	0.46	D 0.275	0.110	0.115	1.700	0.1349
MAY 27,87	MAY 26,87	D	2.32	D 0.36	D 0.520	0.075	0.085	D 1.250	0.1230
MAY 31,87	MAY 30,87		0.58	0.07	0.105	<T 0.020	0.050	0.255	0.0269
JUN 2,87	JUN 1,87		0.86	0.24	0.140	0.070	0.110	1.400	0.0437
JUN 3,87	JUN 2,87		0.74	0.23	0.105	0.085	0.090	1.150	0.0029
JUN 8,87	JUN 7,87		1.66	0.16	0.310	0.080	0.035	1.100	0.0002
JUN 9,87	JUN 8,87		1.62	0.17	0.245	0.120	0.070	1.550	UG 0.0002
JUN 12,87	JUN 11,87		0.88	0.14	0.140	0.040	0.035	0.410	0.1072
JUN 22,87	JUN 21,87		0.48	D 0.20	0.130	0.030	0.040	0.460	0.0676
JUN 23,87	JUN 22,87	<T	0.08	0.10	<T 0.010	<T 0.020	<T 0.005	0.640	0.0891
JUN 26,87	JUN 25,87	D	1.72	0.60	D 0.405	B 0.485	0.050	1.200	0.3890
JUN 28,87	JUN 27,87		0.42	0.15	0.125	0.050	0.045	0.175	UG 0.0002
JUL 4,87	JUL 3,87		0.66	<T 0.05	0.110	0.035	<T 0.010	0.545	0.0447
JUL 7,87	JUL 6,87		0.76	0.25	0.140	0.040	0.050	0.515	0.1148
JUL 8,87	JUL 7,87		0.22	0.10	0.045	<T 0.020	<T 0.015	0.315	0.0447
JUL 9,87	JUL 8,87		0.34	0.15	0.075	<T 0.015	0.030	0.595	0.1148
JUL 11,87	JUL 10,87		0.22	0.10	0.035	<T 0.020	<T 0.020	0.350	0.0347
JUL 14,87	JUL 13,87		0.18	<T 0.05	0.040	<T 0.020	<T 0.015	D 0.240	0.0282
JUL 20,87	JUL 19,87		0.88	0.15	0.200	0.055	0.045	0.610	0.0309
JUL 21,87	JUL 20,87		0.74	0.20	0.135	0.045	0.065	0.490	0.0513
JUL 25,87	JUL 24,87		0.70	0.39	0.130	<T 0.020	0.025	0.690	0.1349
AUG 3,87	AUG 2,87		0.56	D 0.15	0.085	<T 0.010	0.030	0.605	D 0.0166
AUG 8,87	AUG 7,87		3.58	0.38	0.680	0.105	0.050	1.050	B 0.0001

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
AUG 9,87	AUG 8,87	800 900	200 900	1	23.2	1	63728	2	1	97	
AUG 10,87	AUG 9,87	900 800	900 1800	1	3.1	1	63731	2	1	68	
AUG 18,87	AUG 16,87	800 800	1830 1430	1	1.0	1	63732	2	1	32	Q NHY2
AUG 19,87	AUG 18,87	800 800	2000 2100	1	1.2	1	63733	2	1	81	
AUG 22,87	AUG 21,87	800 800	100 300	1	4.3	1	63734	2	1	77	JH
AUG 27,87	AUG 26,87	800 800	1600 2400	1	12.0	1	63735	2	1	93	
AUG 29,87	AUG 28,87	800 800	1300 2100	1	2.7	1	63736	2	1	82	J
AUG 31,87	AUG 30,87	800 1800	1800 100	1	1.0	1	63737	2	1	45	N
SEP 1,87	AUG 31,87	1800 800	2100 2200	1	1.1	1	63738	2	1	70	
SEP 2,87	SEP 1,87	800 800	**** 500	1	4.4	1	63739	2	1	86	HM
SEP 12,87	SEP 11,87	800 800	1200 1600	1	23.8	1	63740	2	1	97	
SEP 13,87	SEP 12,87	800 800	1400 1600	1	3.0	1	63743	2	1	91	
SEP 17,87	SEP 16,87	800 800	1800 2300	1	3.9	1	63744	2	1	110	
SEP 18,87	SEP 17,87	800 800	1000 800	1	7.0	1	63745	2	1	96	
SEP 19,87	SEP 18,87	800 800	800 800	1	2.0	1	63746	2	1	79	
SEP 20,87	SEP 19,87	800 800	800 1500	1	0.8	1	63747	2	1	50	
SEP 21,87	SEP 20,87	800 800	200 500	1	5.2	1	63748	2	1	91	
SEP 22,87	SEP 21,87	800 800	1700 1900	1	6.1	1	63749	2	1	96	J
SEP 28,87	SEP 27,87	800 800	1400 1600	1	6.8	1	63750	2	1	69	
SEP 30,87	SEP 29,87	800 800	1400 1700	1	12.7	1	63751	2	1	97	
OCT 1,87	SEP 30,87	800 800	1400 1700	1	1.4	1	63752	2	1	60	A
OCT 2,87	OCT 1,87	800 800	100 300	1	2.8	1	63753	2	1	83	
OCT 3,87	OCT 2,87	800 800	1400 2100	1	7.4	1	63754	2	1	92	H
OCT 6,87	OCT 5,87	800 800	2300 100	1	1.8	1	63755	2	1	80	H
OCT 7,87	OCT 6,87	800 800	2000 2200	1	0.6	1	63756	2	1	51	N
OCT 8,87	OCT 7,87	800 800	900 2400	1	7.4	1	63757	2	1	125	NHCM
OCT 10,87	OCT 9,87	800 800	**** ****	1	0.6	1	63758	2	1	41	N
OCT 11,87	OCT 10,87	800 800	**** ****	1	****	1	63759	2	1	****	H
OCT 18,87	OCT 17,87	800 1000	1000 1400	1	6.3	1	63760	2	1	91	H
OCT 21,87	OCT 20,87	800 800	1000 2000	1	3.2	1	63761	2	1	81	C
OCT 22,87	OCT 21,87	800 800	900 1400	3	4.4	1	63762	2	1	117	
OCT 23,87	OCT 22,87	800 800	1500 100	3	14.0	1	63763	2	1	83	U GE
OCT 25,87	OCT 24,87	800 800	900 100	1	21.2	1	63766	2	1	95	U GE
OCT 27,87	OCT 26,87	800 800	2400 800	1	7.2	1	63767	2	1	124	N
OCT 28,87	OCT 27,87	800 800	800 1400	1	11.0	1	63768	2	1	90	
OCT 29,87	OCT 28,87	800 800	**** ****	3	4.0	1	63769	2	1	89	A HC
OCT 30,87	OCT 29,87	800 800	**** ****	3	0.1	1	63770	2	1	78	XN
NOV 2,87	NOV 1,87	800 800	**** ****	1	1.0	1	63771	2	1	39	A XN
NOV 3,87	NOV 2,87	800 800	200 700	1	1.2	1	63772	2	1	74	
NOV 5,87	NOV 4,87	800 800	**** ****	1	1.6	1	63773	2	1	65	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
AUG 9,87	AUG 8,87	1455.0	24.0	4.06	4.25	*****	0.0779	2.95	0.24
AUG 10,87	AUG 9,87	137.0	45.0	3.82	3.99	*****	0.1360	5.70	0.47
AUG 18,87	AUG 16,87	21.0	37.0	*****	6.42	*****	0.0207	9.45	1.41
AUG 19,87	AUG 18,87	63.0	9.5	*****	6.81	*****	0.0165	1.35	0.40
AUG 22,87	AUG 21,87	214.0	33.5	3.82	4.30	*****	0.0803	D 4.80	0.72
AUG 27,87	AUG 26,87	720.0	16.0	4.27	4.59	*****	0.0476	1.90	0.30
AUG 29,87	AUG 28,87	142.0	10.5	UG 6.02	6.73	*****	0.0157	1.25	0.39
AUG 31,87	AUG 30,87	29.0	45.5	*****	4.38	*****	0.0772	7.55	1.15
SEP 1,87	AUG 31,87	50.0	!IS *****	*****	6.41	*****	0.0163	1.75	0.17
SEP 2,87	SEP 1,87	245.0	LG 5.0	*****	6.26	*****	0.0166	0.90	LG 0.13
SEP 12,87	SEP 11,87	1492.0	76.5	3.66	3.75	*****	0.2070	8.35	0.72
SEP 13,87	SEP 12,87	175.0	82.0	3.65	3.73	*****	0.2150	8.75	1.06
SEP 17,87	SEP 16,87	275.0	53.5	3.95	4.11	*****	0.1140	7.40	1.27
SEP 18,87	SEP 17,87	434.0	49.0	3.85	4.00	*****	0.1380	4.55	0.83
SEP 19,87	SEP 18,87	102.0	22.0	4.18	4.43	*****	0.0619	D 2.25	0.47
SEP 20,87	SEP 19,87	26.0	43.5	*****	4.06	*****	0.1220	4.10	0.74
SEP 21,87	SEP 20,87	305.0	29.0	D 4.13	4.31	*****	0.0796	D 2.95	0.68
SEP 22,87	SEP 21,87	377.0	13.0	B 5.55	6.20	*****	0.0197	2.10	0.54
SEP 28,87	SEP 27,87	302.0	61.0	4.00	3.99	*****	0.1380	7.15	0.84
SEP 30,87	SEP 29,87	793.0	37.0	4.28	4.35	*****	0.0736	5.60	0.48
OCT 1,87	SEP 30,87	54.0	D 10.0	*****	6.99	*****	0.0177	1.15	LG 0.07
OCT 2,87	OCT 1,87	149.0	24.5	UG 6.39	6.81	*****	0.0210	4.80	0.82
OCT 3,87	OCT 2,87	439.0	LG 4.5	UG 5.73	6.25	*****	0.0172	0.91	LG 0.10
OCT 6,87	OCT 5,87	93.0	17.5	*****	5.19	*****	0.0269	2.80	0.76
OCT 7,87	OCT 6,87	20.0	20.0	*****	6.81	*****	0.0208	3.50	0.52
OCT 8,87	OCT 7,87	594.0	LG 5.0	4.75	4.95	*****	0.0268	0.85	0.18
OCT 10,87	OCT 9,87	16.0	16.5	*****	5.79	*****	0.0214	2.85	0.54
OCT 11,87	OCT 10,87	73.0	6.0	*****	5.36	*****	0.0233	LG 0.55	0.32
OCT 18,87	OCT 17,87	371.0	22.0	4.14	4.43	*****	0.0600	3.10	0.39
OCT 21,87	OCT 20,87	168.0	> 100.0	3.64	3.59	*****	0.2870	8.75	UG 3.70
OCT 22,87	OCT 21,87	331.0	13.5	4.63	4.65	*****	0.0408	1.15	0.35
OCT 23,87	OCT 22,87	746.0	*****	4.68	*****	*****	*****	*****	*****
OCT 25,87	OCT 24,87	1293.0	*****	4.52	*****	*****	*****	*****	*****
OCT 27,87	OCT 26,87	574.0	24.0	*****	4.31	*****	0.0840	2.15	0.51
OCT 28,87	OCT 27,87	640.0	14.0	*****	4.60	*****	0.0520	1.70	0.32
OCT 29,87	OCT 28,87	230.0	LG 5.0	*****	6.09	*****	0.0172	1.20	0.32
OCT 30,87	OCT 29,87	5.0	*****	*****	*****	*****	*****	*****	*****
NOV 2,87	NOV 1,87	25.0	*****	*****	*****	*****	*****	*****	*****
NOV 3,87	NOV 2,87	57.0	57.0	*****	4.02	*****	0.1490	7.60	0.99
NOV 5,87	NOV 4,87	67.0	11.0	*****	5.31	*****	0.0251	2.50	0.37



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 9

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
AUG 9,87	AUG 8,87	0.12	0.04	<T 0.020	<T 0.005	<T 0.010	0.195	0.0562
AUG 10,87	AUG 9,87	0.22	0.11	0.060	<T 0.020	0.045	0.350	0.1023
AUG 18,87	AUG 16,87	2.96	0.42	0.600	0.200	UG 0.375	0.775	0.0004
AUG 19,87	AUG 18,87	0.72	0.07	0.120	0.040	0.045	0.430	UG 0.0002
AUG 22,87	AUG 21,87	1.04	0.18	0.145	D 0.090	0.045	0.770	0.0501
AUG 27,87	AUG 26,87	0.22	D 0.08	0.055	<T 0.005	<T 0.015	0.185	0.0257
AUG 29,87	AUG 28,87	0.58	0.12	0.080	<T 0.010	<T 0.025	0.565	0.0002
AUG 31,87	AUG 30,87	!IS *****	0.41	!IS *****	!IS *****	!IS *****	1.250	0.0417
SEP 1,87	AUG 31,87	!IS *****	0.12	!IS *****	!IS *****	!IS *****	0.355	0.0004
SEP 2,87	SEP 1,87	0.16	D 0.50	<T 0.020	0.030	0.030	0.295	0.0005
SEP 12,87	SEP 11,87	0.22	0.18	0.025	0.030	<T 0.015	0.600	0.1778
SEP 13,87	SEP 12,87	0.30	0.20	D 0.035	0.055	<T 0.020	0.805	0.1862
SEP 17,87	SEP 16,87	1.06	D 0.22	D 0.155	D 0.070	0.045	1.450	0.0776
SEP 18,87	SEP 17,87	0.26	0.16	0.030	0.045	0.040	0.450	0.1000
SEP 19,87	SEP 18,87	0.16	0.10	<T 0.015	0.055	0.080	0.380	0.0372
SEP 20,87	SEP 19,87	!IS *****	0.11	!IS *****	!IS *****	!IS *****	0.380	0.0871
SEP 21,87	SEP 20,87	0.30	0.13	0.025	0.055	0.030	0.620	0.0490
SEP 22,87	SEP 21,87	0.38	0.13	0.055	D 0.045	<T 0.020	0.950	0.0006
SEP 28,87	SEP 27,87	0.92	0.38	0.125	0.055	<T 0.010	0.735	0.1023
SEP 30,87	SEP 29,87	0.50	0.12	0.070	0.035	<T 0.025	1.150	0.0447
OCT 1,87	SEP 30,87	D 0.28	D 0.15	0.075	B 0.620	D 0.045	0.650	UG 0.0001
OCT 2,87	OCT 1,87	1.86	0.13	0.245	0.150	0.130	0.950	UG 0.0002
OCT 3,87	OCT 2,87	0.22	0.16	0.045	0.025	0.025	0.225	0.0006
OCT 6,87	OCT 5,87	1.26	0.16	0.200	0.115	0.095	0.465	0.0065
OCT 7,87	OCT 6,87	1.30	0.18	0.235	0.115	UG 0.400	!IS *****	UG 0.0002
OCT 8,87	OCT 7,87	0.18	<T 0.03	0.025	<T 0.020	<T 0.025	0.225	0.0112
OCT 10,87	OCT 9,87	1.20	0.23	0.190	0.120	0.140	!IS *****	0.0016
OCT 11,87	OCT 10,87	0.28	0.19	0.045	<T 0.025	0.075	0.245	0.0044
OCT 18,87	OCT 17,87	0.50	0.09	0.080	0.045	0.050	0.495	0.0372
OCT 21,87	OCT 20,87	1.18	0.63	0.195	D 0.105	0.070	2.100	0.2570
OCT 22,87	OCT 21,87	<T 0.08	0.10	0.025	<T 0.010	<T 0.010	D 0.290	0.0224
OCT 23,87	OCT 22,87	*****	*****	*****	*****	*****	*****	*****
OCT 25,87	OCT 24,87	*****	*****	*****	*****	*****	*****	*****
OCT 27,87	OCT 26,87	<T 0.10	0.16	<T 0.010	<T 0.015	0.025	0.230	0.0490
OCT 28,87	OCT 27,87	<T 0.08	0.13	<W 0.005	0.030	0.050	0.245	0.0251
OCT 29,87	OCT 28,87	0.22	0.26	0.025	0.090	0.145	0.365	0.0008
OCT 30,87	OCT 29,87	*****	*****	*****	*****	*****	*****	*****
NOV 2,87	NOV 1,87	*****	*****	*****	*****	*****	*****	*****
NOV 3,87	NOV 2,87	0.88	0.78	0.130	0.180	0.495	0.735	0.0955
NOV 5,87	NOV 4,87	0.40	D 0.34	0.075	0.145	D 0.220	0.570	0.0049



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : NORTH EASTHOPE/DAILY/AEROCHEM #03

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE	
NOV 6,87	NOV 5,87	800 800	****	****	2	3.0	1	63774	2	1	78	HCM
NOV 7,87	NOV 6,87	800 800	****	****	2	1.2	1	63775	2	1	89	C
NOV 8,87	NOV 7,87	800 800	2400	800	1	7.4	1	63776	2	1	116	
NOV 9,87	NOV 8,87	800 800	800	100	1	5.8	1	63777	2	1	126	N
NOV 18,87	NOV 17,87	800 800	900	1600	1	5.4	2	63778	2	1	77	J
NOV 19,87	NOV 18,87	800 800	1000	1700	1	0.8	2	63779	2	1	64	
NOV 20,87	NOV 19,87	800 800	****	****	3	****	2	63780	2	1	****	A
NOV 21,87	NOV 20,87	800 800	800	2400	2	3.2	2	63781	2	1	****	EG
NOV 24,87	NOV 23,87	800 800	830	1200	1	0.3	2	63782	2	1	223	N
NOV 25,87	NOV 24,87	800 800	2400	800	3	8.9	2	63797	2	1	87	M
NOV 26,87	NOV 25,87	800 800	800	100	3	38.5	2	63798	2	1	97	JHM
NOV 29,87	NOV 28,87	800 800	****	****	1	8.8	2	63801	2	1	92	J
NOV 30,87	NOV 29,87	800 800	****	****	1	1.2	2	63802	2	1	98	
DEC 1,87	NOV 30,87	800 800	1000	1600	3	2.2	2	63803	2	1	60	
DEC 2,87	DEC 1,87	800 800	1100	800	2	1.5	2	63804	2	1	40	NHCM
DEC 3,87	DEC 2,87	800 800	800	2200	2	1.7	2	63805	2	1	68	H
DEC 4,87	DEC 3,87	800 800	900	2400	2	3.4	2	63806	2	1	43	N
DEC 8,87	DEC 7,87	800 800	100	800	3	1.0	2	63807	2	1	148	N
DEC 9,87	DEC 8,87	800 800	800	100	1	4.0	2	63808	2	1	105	J
DEC 10,87	DEC 9,87	800 800	900	100	1	5.4	2	63809	2	1	116	JHM
DEC 12,87	DEC 11,87	800 800	100	500	1	4.2	2	63810	2	1	102	
DEC 13,87	DEC 12,87	800 800	1800	200	3	5.4	2	63811	2	1	75	
DEC 15,87	DEC 14,87	800 730	2400	730	3	5.8	2	63812	2	1	57	JM
DEC 16,87	DEC 15,87	730 800	730	100	3	36.0	2	63813	2	1	45	N
DEC 17,87	DEC 16,87	800 800	900	2400	2	0.1	2	63816	2	1	****	E
DEC 20,87	DEC 19,87	800 1000	1200	1000	3	18.5	2	63817	2	1	89	
DEC 21,87	DEC 20,87	1000 800	1000	1400	1	2.7	2	63818	2	1	138	N
DEC 23,87	DEC 22,87	800 800	1900	2400	2	1.5	2	63819	2	1	46	N
DEC 25,87	DEC 24,87	800 800	2200	100	1	9.5	2	63820	2	1	95	
DEC 29,87	DEC 28,87	800 800	****	****	2	0.4	2	63821	2	1	****	EF

PAGE : 11

REMOVAL DATE	EXPOSURE DATE	VOLUME  ML	CONDUCT.  UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE  MG/L	NITRATE AS N MG/L
NOV 6,87	NOV 5,87	150.0	LQ 2.5	UG 5.88		6.37	*****	0.0185	0.85 LG 0.10
NOV 7,87	NOV 6,87	69.0	15.0	*****	UG	7.24	*****	0.0150	2.00 LG 0.08
NOV 8,87	NOV 7,87	552.0	17.0	4.20		4.38	*****	0.0707	2.00 0.36
NOV 9,87	NOV 8,87	469.0	24.0	4.10		4.27	*****	0.0857	2.45 0.55
NOV 18,87	NOV 17,87	268.0	20.0	3.94	D	4.63	***** D	0.0534	3.10 0.66
NOV 19,87	NOV 18,87	33.0	10.0	*****		5.06	*****	0.0316	2.10 0.33
NOV 20,87	NOV 19,87	56.0	14.0	*****	UG	6.97	*****	0.0200	2.10 0.77
NOV 21,87	NOV 20,87	*****	*****	*****		*****	*****	*****	*****
NOV 24,87	NOV 23,87	43.0	19.0	*****		4.56	*****	0.0559	3.25 0.45
NOV 25,87	NOV 24,87	501.0	D 11.0	D 4.52		4.58	*****	0.0458	D 0.95 0.17
NOV 26,87	NOV 25,87	2412.0	10.5	3.80		4.53	*****	0.0527	0.75 0.11
NOV 29,87	NOV 28,87	521.0	10.0	3.79		4.64	*****	0.0395	1.00 0.16
NOV 30,87	NOV 29,87	76.0	52.0	*****		3.88	*****	0.1500	3.55 1.10
DEC 1,87	NOV 30,87	86.0	28.0	*****		4.25	*****	0.0835	2.50 0.64
DEC 2,87	DEC 1,87	39.0	<T 0.5	*****		5.56	*****	0.0195	LG 0.25 <T 0.01
DEC 3,87	DEC 2,87	75.0	6.5	*****		5.47	*****	0.0240	0.90 0.22
DEC 4,87	DEC 3,87	94.0	35.0	*****		4.11	*****	0.1030	2.30 0.91
DEC 8,87	DEC 7,87	95.0	?NR *****	*****	?NR *****	*****	?NR *****	?NR *****	?NR *****
DEC 9,87	DEC 8,87	271.0	41.0	LG 3.49		4.01	*****	0.1210	3.20 0.64
DEC 10,87	DEC 9,87	403.0	19.0	3.71		4.37	*****	0.0635	1.80 0.31
DEC 12,87	DEC 11,87	277.0	31.5	3.93		4.13	*****	0.0906	2.10 0.72
DEC 13,87	DEC 12,87	261.0	14.0	4.80		5.14	*****	0.0313	2.20 0.49
DEC 15,87	DEC 14,87	214.0	B 5.0	B 6.01	UG	6.89	*****	0.0160	0.80 0.19
DEC 16,87	DEC 15,87	1048.0	11.5	4.35		4.59	*****	0.0424	1.60 0.17
DEC 17,87	DEC 16,87	*****	*****	*****		*****	*****	*****	*****
DEC 20,87	DEC 19,87	1061.0	27.0	4.03		4.17	*****	0.0858	2.10 0.51
DEC 21,87	DEC 20,87	239.0	39.0	*****	IIS *****	*****	IIS *****	3.60	0.77
DEC 23,87	DEC 22,87	45.0	38.0	*****		4.21	*****	0.0953	1.65 0.99
DEC 25,87	DEC 24,87	579.0	26.5	4.39		4.39	*****	0.0675	2.00 0.50
DEC 29,87	DEC 28,87	*****	*****	*****		*****	*****	*****	*****

**PAGE : 12**

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ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 2,87	JAN 1,87	500 500	**** 500	2	1.6	2	62546	2	1	1	E N
JAN 3,87	JAN 2,87	500 830	500 1400	2	4.0	2	62548	2	1	U 3	F C
JAN 7,87	JAN 6,87	500 500	**** 400	1	1.2	2	62550	2	1	84	
JAN 9,87	JAN 8,87	500 500	**** ****	2	0.1	2	62552	2	1	93	
JAN 10,87	JAN 9,87	500 830	**** 700	2	6.7	2	62554	2	1	U 8	F F
JAN 11,87	JAN 10,87	830 500	1100 1700	2	13.0	2	62556	2	1	U 16	
JAN 17,87	JAN 16,87	500 800	700 ****	2	0.4	2	62558	2	1	440	N
JAN 18,87	JAN 17,87	830 1100	**** 1100	2	10.2	2	62560	2	1	65	
JAN 19,87	JAN 18,87	1100 500	1100 1130	2	0.5	2	62562	2	1	6	E N
JAN 20,87	JAN 19,87	500 500	1300 1900	2	14.0	2	62564	2	1	12	NHCH
JAN 21,87	JAN 20,87	500 500	**** 500	2	0.9	2	62566	2	1	25	N
JAN 23,87	JAN 22,87	500 500	1100 1400	2	1.3	2	62569	2	1	16	N
JAN 24,87	JAN 23,87	500 500	800 2400	2	5.2	2	62571	2	1	0	E N
JAN 29,87	JAN 28,87	500 500	530 1100	2	1.5	2	62573	2	1	24	N
JAN 30,87	JAN 29,87	500 500	**** 500	2	3.0	2	62575	2	1	2	N
JAN 31,87	JAN 30,87	530 830	500 ****	2	10.2	2	62577	2	1	46	N
FEB 3,87	FEB 2,87	500 500	2100 200	2	2.6	2	62579	2	1	67	H
FEB 5,87	FEB 4,87	500 500	1300 1600	2	2.2	2	62581	2	1	57	
FEB 8,87	FEB 7,87	500 1100	600 1030	2	1.7	2	62583	2	1	67	H
FEB 9,87	FEB 8,87	1100 500	1400 300	2	3.0	2	62585	2	1	45	N
FEB 13,87	FEB 12,87	500 500	1830 2300	2	0.9	2	62587	2	1	13	N
FEB 23,87	FEB 22,87	500 500	930 1200	2	0.5	2	62589	2	1	109	
MAR 1,87	FEB 28,87	830 1115	2200 1115	1	11.6	2	62591	2	1	81	
MAR 2,87	MAR 1,87	1115 500	1115 1400	3	7.4	2	62593	2	1	U 13	G
MAR 4,87	MAR 3,87	500 500	800 1400	2	1.0	2	62595	2	1	10	E
MAR 13,87	MAR 12,87	500 500	**** 400	2	0.1	2	62597	2	1	****	E
MAR 26,87	MAR 25,87	500 500	500 800	1	7.2	1	62600	2	1	96	
MAR 27,87	MAR 26,87	500 500	700 1000	1	1.7	1	62602	2	1	70	C
MAR 30,87	MAR 29,87	500 500	**** 500	1	10.9	1	62604	2	1	97	
MAR 31,87	MAR 30,87	500 500	500 1500	3	19.4	2	62606	2	1	42	NC
APR 1,87	MAR 31,87	500 500	500 1400	2	1.0	2	62608	2	1	17	N
APR 2,87	APR 1,87	500 500	2200 300	2	7.2	2	62610	2	1	23	N
APR 5,87	APR 4,87	830 1100	2200 1100	3	2.3	2	62612	2	1	103	
APR 6,87	APR 5,87	1100 500	1100 500	1	4.8	1	62614	2	1	115	
APR 7,87	APR 6,87	500 500	500 700	1	0.5	1	62616	2	1	202	N
APR 12,87	APR 11,87	830 1100	400 1100	1	4.0	1	62618	2	1	91	H
APR 13,87	APR 12,87	1100 500	1100 1600	1	11.4	1	62620	2	1	91	
APR 15,87	APR 14,87	500 500	1700 2100	1	3.0	1	62622	2	1	81	
APR 16,87	APR 15,87	500 500	**** ****	1	0.7	1	62624	2	1	35	N
APR 24,87	APR 23,87	500 500	600 800	1	3.6	1	62626	2	1	89	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEN

#04

PAGE : 2

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
JAN 2,87	JAN 1,87	2.0	*****	*****	*****	*****	*****	*****	*****
JAN 3,87	JAN 2,87	8.0	LG 2.8	*****	5.77	*****	0.0183	<T 0.20	LG 0.08
JAN 7,87	JAN 6,87	65.0	89.0	*****	3.95	*****	0.1740	6.20	UG 3.10
JAN 9,87	JAN 8,87	6.0	22.1	*****	4.44	*****	0.0537	1.80	0.68
JAN 10,87	JAN 9,87	38.0	17.9	*****	4.48	*****	0.0435	0.70	0.58
JAN 11,87	JAN 10,87	134.0	31.7	4.30	4.25	*****	0.0741	2.50	0.78
JAN 17,87	JAN 16,87	113.0	35.2	4.20	4.19	*****	0.0805	2.55	0.84
JAN 18,87	JAN 17,87	427.0	14.7	4.54	4.52	*****	0.0426	LG 0.40	0.37
JAN 19,87	JAN 18,87	2.0	*****	*****	*****	*****	*****	*****	*****
JAN 20,87	JAN 19,87	109.0	LG 2.9	UG 5.58	5.83	*****	0.0160	LG 0.25	LG 0.04
JAN 21,87	JAN 20,87	15.0	15.1	*****	4.62	*****	0.0387	0.70	0.50
JAN 23,87	JAN 22,87	14.0	23.6	*****	4.73	*****	0.0416	1.80	0.83
JAN 24,87	JAN 23,87	2.0	*****	*****	*****	*****	*****	*****	*****
JAN 29,87	JAN 28,87	24.0	14.6	*****	5.07	*****	0.0364	D 1.50	0.52
JAN 30,87	JAN 29,87	5.0	5.6	*****	5.14	*****	0.0256	LG 0.35	0.11
JAN 31,87	JAN 30,87	302.0	27.5	4.14	4.25	*****	0.0827	1.60	0.65
FEB 3,87	FEB 2,87	112.0	9.3	5.02	5.22	*****	0.0251	0.75	0.35
FEB 5,87	FEB 4,87	81.0	19.0	*****	4.73	*****	0.0441	2.05	0.56
FEB 8,87	FEB 7,87	74.0	23.0	*****	5.33	*****	0.0262	2.70	1.08
FEB 9,87	FEB 8,87	88.0	10.6	*****	5.75	*****	0.0209	0.80	0.46
FEB 13,87	FEB 12,87	8.0	12.0	*****	5.15	*****	0.0256	0.95	0.36
FEB 23,87	FEB 22,87	35.0	> 100.0	*****	3.38	*****	UG 0.4870	> 10.00	> 2.00
MAR 1,87	FEB 28,87	605.0	25.0	4.25	4.35	*****	0.0738	1.60	0.37
MAR 2,87	MAR 1,87	63.0	20.3	*****	4.49	*****	0.0553	1.25	0.34
MAR 4,87	MAR 3,87	7.0	*****	*****	*****	*****	*****	*****	*****
MAR 13,87	MAR 12,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 26,87	MAR 25,87	444.0	40.2	4.08	4.17	*****	0.1000	3.40	0.86
MAR 27,87	MAR 26,87	77.0	32.4	*****	4.61	*****	0.0549	3.75	0.96
MAR 30,87	MAR 29,87	682.0	37.2	4.07	4.21	*****	0.0948	3.70	0.61
MAR 31,87	MAR 30,87	532.0	7.2	4.87	5.21	*****	0.0215	0.65	LG 0.08
APR 1,87	MAR 31,87	11.0	LG 4.2	*****	6.23	*****	0.0128	<T 0.20	<T 0.03
APR 2,87	APR 1,87	109.0	26.2	4.22	4.39	*****	0.0713	1.75	0.60
APR 5,87	APR 4,87	153.0	22.2	4.39	4.61	*****	0.0493	2.65	0.26
APR 6,87	APR 5,87	355.0	16.0	*****	4.62	*****	U 0.7470	2.85	0.21
APR 7,87	APR 6,87	65.0	8.0	*****	UG 6.79	*****	0.0157	1.30	0.16
APR 12,87	APR 11,87	235.0	16.0	*****	5.38	*****	0.0241	2.95	0.77
APR 13,87	APR 12,87	666.0	14.0	*****	4.57	*****	0.0482	1.45	0.30
APR 15,87	APR 14,87	157.0	54.0	*****	4.05	*****	0.1370	8.30	0.99
APR 16,87	APR 15,87	16.0	17.0	*****	4.52	*****	0.0528	2.70	0.24
APR 24,87	APR 23,87	206.0	UG 98.0	3.60	3.85	*****	0.2060	UG 15.00	UG 3.45

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 3

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
JAN 2,87	JAN 1,87	*****	*****	*****	*****	*****	*****	*****
JAN 3,87	JAN 2,87	!IS *****	<T 0.02	!IS *****	!IS *****	!IS *****	LG 0.050	0.0017
JAN 7,87	JAN 6,87	1.20	0.55	0.145	0.080	0.215	1.900	0.1122
JAN 9,87	JAN 8,87	!IS *****	0.14	!IS *****	!IS *****	!IS *****	0.540	0.0363
JAN 10,87	JAN 9,87	0.52	0.18	0.040	<T 0.005	0.035	LG 0.050	0.0331
JAN 11,87	JAN 10,87	0.30	0.22	<T 0.010	<T 0.020	0.055	0.620	0.0562
JAN 17,87	JAN 16,87	0.54	0.25	0.050	<T 0.015	0.065	0.435	0.0646
JAN 18,87	JAN 17,87	<T 0.08	0.19	<T 0.015	<W 0.005	<T 0.020	LG 0.055	0.0302
JAN 19,87	JAN 18,87	*****	*****	*****	*****	*****	*****	*****
JAN 20,87	JAN 19,87	<T 0.02	0.05	<T 0.005	<W 0.005	<T 0.015	0.085	0.0015
JAN 21,87	JAN 20,87	0.24	0.30	0.055	<T 0.020	0.135	0.200	0.0240
JAN 23,87	JAN 22,87	0.86	0.98	0.110	0.035	0.545	0.485	0.0186
JAN 24,87	JAN 23,87	*****	*****	*****	*****	*****	*****	*****
JAN 29,87	JAN 28,87	0.50	0.38	0.095	0.040	0.205	0.430	0.0085
JAN 30,87	JAN 29,87	<T 0.06	0.17	<T 0.015	0.050	0.095	<W 0.005	0.0072
JAN 31,87	JAN 30,87	<T 0.04	0.16	<T 0.015	<T 0.010	0.045	0.210	0.0562
FEB 3,87	FEB 2,87	0.14	0.10	<T 0.020	<T 0.010	0.055	0.290	0.0060
FEB 5,87	FEB 4,87	0.12	0.28	0.025	<T 0.020	0.095	0.850	0.0186
FEB 8,87	FEB 7,87	0.46	0.28	0.090	<T 0.020	0.105	1.500	0.0047
FEB 9,87	FEB 8,87	0.34	0.57	0.100	<T 0.010	0.310	0.380	0.0018
FEB 13,87	FEB 12,87	0.28	0.30	0.075	<T 0.010	0.135	0.265	0.0071
FEB 23,87	FEB 22,87	!IS *****	> 2.00	!IS *****	!IS *****	!IS *****	0.950	0.4169
MAR 1,87	FEB 28,87	<W 0.02	0.06	<T 0.005	<T 0.010	<T 0.020	0.150	0.0447
MAR 2,87	MAR 1,87	<T 0.04	0.05	<T 0.010	<T 0.015	0.025	0.225	0.0324
MAR 4,87	MAR 3,87	*****	*****	*****	*****	*****	*****	*****
MAR 13,87	MAR 12,87	*****	*****	*****	*****	*****	*****	*****
MAR 26,87	MAR 25,87	0.32	0.25	0.060	0.030	0.070	0.610	0.0676
MAR 27,87	MAR 26,87	0.38	0.38	0.035	0.040	0.070	1.550	0.0245
MAR 30,87	MAR 29,87	0.26	0.14	D 0.045	0.030	0.030	0.580	0.0617
MAR 31,87	MAR 30,87	<T 0.04	<T 0.02	<T 0.005	<T 0.010	<T 0.020	0.100	0.0062
APR 1,87	MAR 31,87	<T 0.06	0.10	<T 0.015	<T 0.015	0.070	!IS *****	0.0006
APR 2,87	APR 1,87	0.14	0.11	<T 0.025	<T 0.015	0.035	0.360	0.0407
APR 5,87	APR 4,87	0.14	0.42	0.055	0.035	0.285	0.500	0.0245
APR 6,87	APR 5,87	0.09	0.35	0.030	0.025	0.195	0.560	0.0240
APR 7,87	APR 6,87	0.28	0.19	0.060	0.035	0.140	0.580	UG 0.0002
APR 12,87	APR 11,87	1.26	0.31	0.235	0.030	0.050	0.640	0.0042
APR 13,87	APR 12,87	<T 0.10	0.10	<T 0.010	<W 0.005	<T 0.025	0.245	0.0269
APR 15,87	APR 14,87	1.44	0.40	0.340	0.085	0.130	0.700	0.0891
APR 16,87	APR 15,87	0.24	0.17	0.075	0.025	0.070	0.255	0.0302
APR 24,87	APR 23,87	UG 3.86	1.08	B 1.010	0.195	0.255	1.750	0.1413

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
APR 28,87	APR 27,87	500 500	1500 300	1	7.2	1	62628	2	1	90	JH
MAY 11,87	MAY 10,87	500 500	2200 2300	1	2.1	1	62630	2	1	U 78	JCQ
MAY 12,87	MAY 11,87	500 500	1630 1645	1	0.2	1	62632	2	1	****	E N
MAY 15,87	MAY 14,87	500 500	1630 2200	1	11.8	1	62634	2	1	100	C H
MAY 19,87	MAY 18,87	500 500	700 1400	1	9.2	1	62636	2	1	112	
MAY 20,87	MAY 19,87	500 500	**** 400	1	2.6	1	62638	2	1	71	
MAY 21,87	MAY 20,87	500 500	600 1000	1	3.0	1	62640	2	1	82	C
MAY 22,87	MAY 21,87	500 500	800 930	1	1.6	1	62642	2	1	66	A
MAY 27,87	MAY 26,87	500 500	800 1300	1	4.8	1	62644	2	1	89	
MAY 31,87	MAY 30,87	500 1140	2300 400	1	6.6	1	62646	2	1	103	A
JUN 2,87	JUN 1,87	500 500	1540 1700	1	5.9	1	62648	2	1	97	
JUN 6,87	JUN 5,87	500 500	1200 1400	1	1.0	1	62650	2	1	46	Q N
JUN 7,87	JUN 6,87	500 1030	**** 400	1	3.4	1	62652	2	1	92	H
JUN 9,87	JUN 8,87	500 500	1000 1200	1	1.0	1	62654	2	1	71	HM
JUN 12,87	JUN 11,87	500 500	2000 300	1	7.7	1	62656	2	1	97	A
JUN 22,87	JUN 20,87	800 1030	2400 630	1	16.7	1	62658	2	1	168	A NZ
JUN 26,87	JUN 25,87	800 800	200 400	1	3.0	1	62660	2	1	91	A C
JUN 27,87	JUN 26,87	800 730	1600 1700	1	0.4	1	62662	2	1	****	E N
JUN 28,87	JUN 27,87	730 1410	300 500	1	4.2	1	62664	2	1	95	C
JUN 29,87	JUN 28,87	1410 1500	**** ****	1	0.1	1	62666	2	1	****	E N
JUL 3,87	JUL 2,87	800 1000	**** ****	1	0.1	1	62668	2	1	****	E N
JUL 4,87	JUL 3,87	1000 800	1300 1500	1	18.2	1	62670	2	1	103	
JUL 7,87	JUL 6,87	1630 700	1830 1900	1	3.0	1	62672	2	1	102	
JUL 9,87	JUL 7,87	730 2000	**** ****	1	42.0	1	62674	2	1	103	A Y2
JUL 12,87	JUL 11,87	530 1600	1530 1700	1	14.5	1	62680	2	1	91	
JUL 14,87	JUL 13,87	500 500	200 500	1	23.7	1	62682	2	1	100	
JUL 15,87	JUL 14,87	500 500	500 900	1	4.5	1	62684	2	1	65	
JUL 20,87	JUL 19,87	500 500	2130 ****	1	23.1	1	62686	2	1	99	D CH
JUL 21,87	JUL 20,87	500 730	2300 100	1	3.4	1	62688	2	1	89	J J
JUL 25,87	JUL 24,87	530 900	1830 ****	1	26.8	1	62690	2	1	112	
JUL 30,87	JUL 29,87	800 800	**** ****	1	0.1	1	62692	2	1	****	E N
AUG 3,87	AUG 2,87	500 500	1200 1700	1	44.8	1	62694	2	1	108	J
AUG 8,87	AUG 7,87	500 1000	1630 1730	1	1.7	1	62696	2	1	42	N
AUG 9,87	AUG 8,87	1000 1130	600 1130	1	27.5	1	62698	2	1	104	
AUG 17,87	AUG 16,87	500 500	1820 1850	1	4.1	1	62700	2	1	U 85	EG
AUG 19,87	AUG 18,87	500 500	1930 1955	1	1.2	1	62702	2	1	65	
AUG 22,87	AUG 21,87	500 500	**** 300	1	3.0	1	62704	2	1	72	M JH
AUG 24,87	AUG 23,87	500 500	**** ****	1	0.6	1	62706	2	1	117	
AUG 27,87	AUG 26,87	500 500	1800 500	1	9.8	1	62707	2	1	96	
AUG 29,87	AUG 28,87	500 700	1500 2000	1	2.7	1	62709	2	1	96	JHM



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L	
APR 28,87	APR 27,87	420.0	21.9	UG	5.19	6.54	*****	0.0177	3.80	0.85
MAY 11,87	MAY 10,87	105.0	U 93.1	U	7.54	8.01	*****	U 0.0010	U 12.85	U 3.15
MAY 12,87	MAY 11,87	*****	*****	*****	*****	*****	*****	*****	*****	*****
MAY 15,87	MAY 14,87	758.0	33.5		4.25	4.52	*****	0.0614	5.65	0.84
MAY 19,87	MAY 18,87	665.0	43.7		3.94	4.13	*****	0.0906	5.50	0.50
MAY 20,87	MAY 19,87	119.0	60.3		3.83	3.89	*****	0.1500	6.00	0.72
MAY 21,87	MAY 20,87	158.0	> 100.0		3.54	3.52	*****	0.3240	9.50	1.93
MAY 22,87	MAY 21,87	68.0	63.9		*****	3.93	*****	0.1460	6.55	1.17
MAY 27,87	MAY 26,87	275.0	93.0		3.67	3.68	*****	0.2290	8.85	1.09
MAY 31,87	MAY 30,87	437.0	19.4		4.44	4.73	*****	0.0364	2.30	0.57
JUN 2,87	JUN 1,87	367.0	36.3		4.16	4.34	*****	0.0692	3.65	1.15
JUN 6,87	JUN 5,87	30.0	48.5		*****	7.51	*****	0.0121	5.05	1.46
JUN 7,87	JUN 6,87	201.0	21.5		4.93	5.38	*****	0.0284	3.40	0.84
JUN 9,87	JUN 8,87	46.0	47.0		*****	7.15	*****	0.0187	4.90	1.43
JUN 12,87	JUN 11,87	483.0	61.8		3.79	3.80	*****	0.1600	6.45	0.86
JUN 22,87	JUN 20,87	1802.0	38.6		4.17	4.19	*****	0.0871	5.25	0.55
JUN 26,87	JUN 25,87	175.0	> 100.0		3.49	3.47	*****	0.3640	14.75	1.80
JUN 27,87	JUN 26,87	*****	*****		*****	*****	*****	*****	*****	*****
JUN 28,87	JUN 27,87	256.0	LG 5.8	UG	5.82	6.38	*****	0.0135	LG 0.35	LG 0.10
JUN 29,87	JUN 28,87	*****	*****		*****	*****	*****	*****	*****	*****
JUL 3,87	JUL 2,87	*****	*****		*****	*****	*****	*****	*****	*****
JUL 4,87	JUL 3,87	1202.0	43.9		4.03	4.13	*****	0.1000	5.50	0.59
JUL 7,87	JUL 6,87	197.0	36.1		4.26	4.45	*****	0.0586	5.35	1.00
JUL 9,87	JUL 7,87	2786.0	33.9		4.17	4.22	*****	0.0812	3.20	0.60
JUL 12,87	JUL 11,87	854.0	19.9		4.57	4.64	*****	0.0422	2.85	0.45
JUL 14,87	JUL 13,87	1534.0	19.5		4.34	4.44	*****	0.0538	2.25	0.35
JUL 15,87	JUL 14,87	188.0	LG 3.3	UG	5.18	5.51	*****	0.0165	<T 0.15	<T 0.05
JUL 20,87	JUL 19,87	1480.0	25.2		4.16	6.62	*****	0.0161	5.30	0.35
JUL 21,87	JUL 20,87	196.0	14.2		4.44	5.13	*****	0.0258	2.10	0.40
JUL 25,87	JUL 24,87	1936.0	76.5		*****	3.78	*****	0.2040	10.35	0.82
JUL 30,87	JUL 29,87	*****	*****		*****	*****	*****	*****	*****	*****
AUG 3,87	AUG 2,87	3106.0	24.0		4.04	4.52	*****	0.0549	3.85	0.54
AUG 8,87	AUG 7,87	46.0	21.0		*****	4.34	*****	0.0666	2.45	0.21
AUG 9,87	AUG 8,87	1844.0	21.0		4.06	4.35	*****	0.0666	2.45	0.21
AUG 17,87	AUG 16,87	224.0	*****		*****	*****	*****	*****	*****	*****
AUG 19,87	AUG 18,87	50.0	12.5		*****	7.24	*****	0.0154	1.25	0.41
AUG 22,87	AUG 21,87	140.0	26.5		3.92	4.39	*****	0.0659	3.70	0.57
AUG 24,87	AUG 23,87	45.0	80.0		*****	7.58	*****	0.0199	12.55	1.13
AUG 27,87	AUG 26,87	604.0	16.5		4.36	4.53	*****	0.0497	2.10	0.36
AUG 29,87	AUG 28,87	167.0	8.0	UG	6.03	6.96	*****	0.0185	1.10	0.34

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
APR 28,87	APR 27,87	1.26	0.26	0.185	0.060	0.065	0.970	0.0003
MAY 11,87	MAY 10,87	U 14.00	U 1.83	U 2.200	U 1.060	U 0.530	U 4.950	U 0.0000
MAY 12,87	MAY 11,87	*****	*****	*****	*****	*****	*****	*****
MAY 15,87	MAY 14,87	1.96	0.22	0.285	0.050	0.025	0.880	0.0302
MAY 19,87	MAY 18,87	0.30	0.11	0.050	<T 0.025	<T 0.010	0.820	0.0741
MAY 20,87	MAY 19,87	0.22	0.12	0.045	<T 0.020	0.040	0.535	0.1288
MAY 21,87	MAY 20,87	0.14	0.26	<T 0.015	0.030	0.075	0.850	0.3020
MAY 22,87	MAY 21,87	0.64	0.29	0.095	0.105	0.100	1.200	0.1175
MAY 27,87	MAY 26,87	0.64	0.22	0.105	0.030	0.055	0.725	0.2089
MAY 31,87	MAY 30,87	0.74	0.09	0.175	0.035	0.075	0.285	0.0186
JUN 2,87	JUN 1,87	0.84	0.16	0.145	0.050	0.060	0.900	0.0457
JUN 6,87	JUN 5,87	3.16	0.28	0.670	0.190	UG 0.270	!IS *****	UG 0.0000
JUN 7,87	JUN 6,87	1.30	0.16	0.235	0.055	0.045	0.950	0.0042
JUN 9,87	JUN 8,87	3.10	0.28	0.475	0.210	0.105	2.300	UG 0.0001
JUN 12,87	JUN 11,87	0.55	0.20	0.115	0.050	0.040	0.540	0.1585
JUN 22,87	JUN 20,87	0.56	0.10	0.095	0.025	<T 0.020	0.720	0.0646
JUN 26,87	JUN 25,87	0.58	0.45	0.140	0.055	0.125	0.900	0.3388
JUN 27,87	JUN 26,87	*****	*****	*****	*****	*****	*****	*****
JUN 28,87	JUN 27,87	0.12	0.05	0.025	<T 0.020	0.055	0.175	0.0004
JUN 29,87	JUN 28,87	*****	*****	*****	*****	*****	*****	*****
JUL 3,87	JUL 2,87	*****	*****	*****	*****	*****	*****	*****
JUL 4,87	JUL 3,87	0.30	0.17	0.090	0.050	0.040	0.950	0.0741
JUL 7,87	JUL 6,87	1.64	0.30	0.290	0.060	0.135	0.630	0.0355
JUL 9,87	JUL 7,87	0.36	<W 0.01	0.070	<T 0.015	0.030	0.475	0.0603
JUL 12,87	JUL 11,87	0.52	0.10	0.100	0.030	0.030	0.505	0.0229
JUL 14,87	JUL 13,87	0.18	0.10	0.040	<T 0.020	<T 0.020	0.370	0.0363
JUL 15,87	JUL 14,87	<W 0.02	<W 0.01	<W 0.005	<W 0.005	<T 0.005	LG 0.035	0.0031
JUL 20,87	JUL 19,87	!IS *****	UG 1.30	!IS *****	!IS *****	!IS *****	!IS *****	0.0002
JUL 21,87	JUL 20,87	0.54	0.20	0.115	0.125	0.130	0.330	0.0074
JUL 25,87	JUL 24,87	0.82	0.22	0.140	0.030	0.040	0.830	0.1660
JUL 30,87	JUL 29,87	*****	*****	*****	*****	*****	*****	*****
AUG 3,87	AUG 2,87	0.62	0.11	0.060	<T 0.020	0.035	0.675	0.0302
AUG 8,87	AUG 7,87	0.14	0.09	<T 0.010	<W 0.005	<T 0.005	0.155	0.0457
AUG 9,87	AUG 8,87	0.12	0.13	<T 0.015	<W 0.005	<T 0.010	0.150	0.0447
AUG 17,87	AUG 16,87	*****	*****	*****	*****	*****	*****	*****
AUG 19,87	AUG 18,87	0.64	0.07	0.130	0.045	0.050	0.900	UG 0.0001
AUG 22,87	AUG 21,87	0.88	0.11	0.155	0.045	0.040	0.505	0.0407
AUG 24,87	AUG 23,87	UG 6.60	UG 11.50	0.890	UG 1.260	U 7.710	0.240	UG 0.0000
AUG 27,87	AUG 26,87	0.32	0.11	0.070	<T 0.015	<T 0.025	0.235	0.0295
AUG 29,87	AUG 28,87	0.48	0.10	0.065	<T 0.005	0.025	0.515	UG 0.0001

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
AUG 31,87	AUG 30,87	500 500	200 430	1	1.0	1	62711	2	1	39	N
SEP 1,87	AUG 31,87	500 500	**** 400	1	1.0	1	62713	2	1	62	
SEP 2,87	SEP 1,87	500 500	**** 430	1	2.0	1	62715	2	1	82	H
SEP 4,87	SEP 3,87	500 500	**** ****	1	5.0	1	62717	2	1	80	
SEP 12,87	SEP 11,87	500 500	1200 1400	1	25.0	1	62719	2	1	107	
SEP 13,87	SEP 12,87	500 500	1400 1600	1	3.0	1	62721	2	1	84	
SEP 14,87	SEP 13,87	500 500	1300 1315	1	0.2	1	62723	2	1	****	E N
SEP 17,87	SEP 16,87	500 500	2200 300	1	4.4	1	62725	2	1	83	
SEP 18,87	SEP 17,87	500 500	1300 1400	1	5.5	1	62727	2	1	93	A
SEP 19,87	SEP 18,87	500 500	800 800	1	4.9	1	62729	2	1	85	
SEP 20,87	SEP 19,87	500 500	1300 1700	1	3.3	1	62731	2	1	****	EI
SEP 21,87	SEP 20,87	500 500	200 500	1	11.0	1	62733	2	1	99	
SEP 22,87	SEP 21,87	500 500	2030 ****	1	3.1	1	62735	2	1	78	
SEP 28,87	SEP 27,87	500 500	1400 1600	1	2.9	1	62737	2	1	70	
SEP 30,87	SEP 29,87	500 500	1400 1630	1	12.6	1	62739	2	1	103	
OCT 1,87	SEP 30,87	500 500	1400 1600	1	3.9	1	62741	2	1	85	J
OCT 2,87	OCT 1,87	500 500	2100 2200	1	2.5	1	62743	2	1	79	
OCT 3,87	OCT 2,87	500 500	1400 2000	1	6.5	1	62745	2	1	93	
OCT 6,87	OCT 5,87	500 500	**** 300	1	1.7	1	62747	2	1	78	H
OCT 8,87	OCT 7,87	500 500	1200 ****	1	10.1	1	62749	2	1	92	
OCT 11,87	OCT 10,87	500 500	**** 400	3	1.5	1	62751	2	1	58	
OCT 18,87	OCT 17,87	500 500	1000 1600	1	5.9	1	62753	2	1	83	HM
OCT 20,87	OCT 19,87	500 500	**** 200	1	0.5	1	62755	2	1	74	
OCT 21,87	OCT 20,87	500 500	1200 1600	1	3.1	1	62758	2	1	85	JC
OCT 22,87	OCT 21,87	500 500	700 1300	3	6.0	1	62760	2	1	90	
OCT 23,87	OCT 22,87	500 500	1600 300	3	11.0	1	62762	2	1	97	
OCT 25,87	OCT 24,87	500 500	1100 2000	1	19.0	1	62764	2	1	105	J
OCT 27,87	OCT 26,87	500 500	**** ****	1	2.4	2	62766	2	1	100	
OCT 28,87	OCT 27,87	500 500	500 1300	3	16.4	2	62768	2	1	93	
OCT 30,87	OCT 29,87	500 500	**** ****	3	2.8	2	62770	2	1	113	HM
NOV 2,87	NOV 1,87	500 500	1500 1505	4	0.1	2	62772	2	1	****	E N
NOV 4,87	NOV 3,87	500 500	500 700	1	1.4	2	62774	2	1	172	N
NOV 5,87	NOV 4,87	500 500	2130 2140	1	0.3	2	62776	2	1	187	N
NOV 6,87	NOV 5,87	500 500	2200 500	2	3.7	2	62778	2	1	90	HCM
NOV 7,87	NOV 6,87	500 500	500 800	2	1.7	2	62780	2	1	52	HCM
NOV 8,87	NOV 7,87	500 500	**** 500	1	5.2	2	62782	2	1	102	
NOV 9,87	NOV 8,87	500 500	500 ****	1	6.4	2	62784	2	1	96	A
NOV 18,87	NOV 17,87	500 500	600 1600	1	2.8	2	62786	2	1	170	NJ
NOV 19,87	NOV 18,87	500 500	700 1200	1	1.5	2	62788	2	1	125	NJ
NOV 20,87	NOV 19,87	500 500	2300 300	3	2.0	2	62790	2	1	56	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 8

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
AUG 31,87	AUG 30,87	25.0	56.0	*****	4.00	*****	0.1240	6.40	1.05
SEP 1,87	AUG 31,87	40.0	9.0	*****	UG 7.01	*****	0.0194	1.50	0.20
SEP 2,87	SEP 1,87	106.0	LG 5.0	*****	6.20	*****	0.0170	LG 0.80	0.14
SEP 4,87	SEP 3,87	258.0	LG 5.0	*****	5.55	*****	0.0217	0.85	LG 0.10
SEP 12,87	SEP 11,87	1715.0	65.0	3.76	3.82	*****	0.1790	7.10	0.66
SEP 13,87	SEP 12,87	162.0	88.0	3.61	3.69	*****	0.2380	9.00	1.09
SEP 14,87	SEP 13,87	*****	!NR *****	*****	!NR *****	*****	!NR *****	!NR *****	!NR *****
SEP 17,87	SEP 16,87	235.0	43.5	4.00	4.13	*****	0.1030	4.95	0.85
SEP 18,87	SEP 17,87	329.0	51.0	*****	3.98	*****	0.1370	5.15	0.76
SEP 19,87	SEP 18,87	270.0	15.0	4.34	4.56	*****	0.0475	1.35	0.30
SEP 20,87	SEP 19,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 21,87	SEP 20,87	701.0	37.5	4.06	4.20	*****	0.0920	3.85	0.88
SEP 22,87	SEP 21,87	155.0	19.0	4.34	4.59	*****	0.0484	2.00	0.55
SEP 28,87	SEP 27,87	131.0	59.0	4.02	4.01	*****	0.1330	7.10	0.99
SEP 30,87	SEP 29,87	836.0	36.0	4.32	4.42	*****	0.0705	5.60	0.51
OCT 1,87	SEP 30,87	215.0	LG 4.5	UG 5.64	6.22	*****	0.0198	1.10	LG 0.06
OCT 2,87	OCT 1,87	128.0	21.5	UG 6.42	6.73	*****	0.0172	4.05	0.76
OCT 3,87	OCT 2,87	391.0	LG 4.0	UG 5.86	6.34	*****	0.0177	0.95	LG 0.11
OCT 6,87	OCT 5,87	86.0	16.0	*****	4.66	*****	0.0441	1.95	0.47
OCT 8,87	OCT 7,87	598.0	7.5	4.93	5.22	*****	0.0237	1.15	0.23
OCT 11,87	OCT 10,87	56.0	16.0	*****	6.17	*****	0.0203	2.45	0.64
OCT 18,87	OCT 17,87	317.0	20.0	4.26	4.47	*****	0.0535	2.50	0.31
OCT 20,87	OCT 19,87	24.0	47.0	*****	4.11	*****	0.1030	3.15	1.57
OCT 21,87	OCT 20,87	169.0	> 100.0	3.85	3.58	*****	0.2880	8.70	UG 3.50
OCT 22,87	OCT 21,87	347.0	14.5	4.88	4.73	*****	0.0395	1.60	0.36
OCT 23,87	OCT 22,87	690.0	16.5	4.81	4.63	*****	0.0430	1.30	0.57
OCT 25,87	OCT 24,87	1290.0	25.0	4.60	4.37	*****	0.0619	2.25	0.49
OCT 27,87	OCT 26,87	155.0	42.0	*****	4.00	*****	0.1320	3.00	0.87
OCT 28,87	OCT 27,87	986.0	16.0	*****	4.47	*****	0.0643	1.65	0.35
OCT 30,87	OCT 29,87	204.0	LG 5.0	*****	5.93	*****	0.0189	1.00	0.34
NOV 2,87	NOV 1,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 4,87	NOV 3,87	155.0	23.0	4.15	4.39	*****	0.0724	3.30	0.42
NOV 5,87	NOV 4,87	36.0	17.0	*****	6.26	*****	0.0208	3.55	0.82
NOV 6,87	NOV 5,87	215.0	LG 2.5	UG 6.00	6.44	*****	0.0156	0.80	LG 0.07
NOV 7,87	NOV 6,87	57.0	LG 3.5	*****	6.37	*****	0.0172	1.15	0.14
NOV 8,87	NOV 7,87	342.0	19.0	4.28	4.35	*****	0.0792	1.90	0.37
NOV 9,87	NOV 8,87	396.0	25.0	4.19	4.28	*****	0.0898	2.50	0.58
NOV 18,87	NOV 17,87	306.0	20.0	3.82	4.50	*****	0.0619	2.50	0.64
NOV 19,87	NOV 18,87	121.0	14.0	4.36	5.00	*****	0.0364	2.75	0.45
NOV 20,87	NOV 19,87	72.0	10.0	*****	UG 6.67	*****	0.0211	1.50	0.62

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM				#04	PAGE : 9			
REMOVAL DATE	EXPOSURE DATE	CALCIUM	CHLORIDE	MAGNESIM	POTASSIM	SODIUM	AMMONIUM	FREE H+
		MG/L	MG/L	MG/L	MG/L	MG/L	AS N MG/L	LAB MG/L
AUG 31,87	AUG 30,87	!IS *****	0.34	!IS *****	!IS *****	!IS *****	1.000	0.1000
SEP 1,87	AUG 31,87	!IS *****	0.12	!IS *****	!IS *****	!IS *****	0.795	UG 0.000
SEP 2,87	SEP 1,87	<T 0.06	<T 0.05	<T 0.010	<T 0.015	0.040	0.325	0.0006
SEP 4,87	SEP 3,87	<T 0.04	<T 0.02	<T 0.005	<T 0.025	<T 0.020	0.300	0.0028
SEP 12,87	SEP 11,87	0.26	0.17	0.050	<T 0.020	<T 0.015	0.490	0.1514
SEP 13,87	SEP 12,87	0.20	0.19	<T 0.020	0.035	0.035	0.710	0.2042
SEP 14,87	SEP 13,87	!NR *****	!NR *****	!NR *****	!NR *****	!NR *****	!NR *****	!NR *****
SEP 17,87	SEP 16,87	0.42	0.18	0.065	0.040	0.035	0.850	0.0741
SEP 18,87	SEP 17,87	0.22	0.16	<T 0.025	0.025	0.040	0.565	0.1047
SEP 19,87	SEP 18,87	<W 0.02	<T 0.02	<T 0.005	<T 0.020	<T 0.010	0.265	0.0275
SEP 20,87	SEP 19,87	*****	*****	*****	*****	*****	*****	*****
SEP 21,87	SEP 20,87	0.32	0.15	0.050	0.050	<T 0.020	0.835	0.0631
SEP 22,87	SEP 21,87	0.36	0.12	0.060	<T 0.015	<T 0.025	0.475	0.0257
SEP 28,87	SEP 27,87	1.08	0.17	0.155	0.055	0.035	0.850	0.0977
SEP 30,87	SEP 29,87	0.40	0.13	0.045	0.035	0.025	1.350	0.0380
OCT 1,87	SEP 30,87	<T 0.08	<T 0.04	<T 0.025	<T 0.015	<T 0.010	0.385	0.0006
OCT 2,87	OCT 1,87	1.64	0.11	0.235	0.125	0.110	0.825	0.0002
OCT 3,87	OCT 2,87	0.32	<T 0.01	0.050	<T 0.025	0.040	0.210	0.0005
OCT 6,87	OCT 5,87	0.66	0.05	0.105	0.025	0.035	0.290	0.0219
OCT 8,87	OCT 7,87	0.14	<T 0.03	0.025	<T 0.005	0.030	0.355	0.0060
OCT 11,87	OCT 10,87	0.88	0.27	0.140	0.045	0.085	0.700	0.0007
OCT 18,87	OCT 17,87	0.38	0.07	0.060	<T 0.020	0.025	0.455	0.0339
OCT 20,87	OCT 19,87	0.88	0.21	0.150	0.045	0.100	!IS *****	0.0776
OCT 21,87	OCT 20,87	0.96	0.61	0.165	0.080	0.075	2.050	0.2630
OCT 22,87	OCT 21,87	0.12	0.11	0.035	<T 0.010	0.025	0.485	0.0186
OCT 23,87	OCT 22,87	0.24	0.06	0.040	<T 0.025	<T 0.010	0.435	0.0234
OCT 25,87	OCT 24,87	0.38	0.09	0.040	0.030	0.025	0.310	0.0427
OCT 27,87	OCT 26,87	0.20	0.27	<T 0.025	<T 0.010	0.025	0.170	0.1000
OCT 28,87	OCT 27,87	<T 0.02	0.08	<T 0.010	<T 0.015	<T 0.010	0.260	0.0339
OCT 30,87	OCT 29,87	<T 0.04	0.13	<T 0.015	<T 0.020	<T 0.010	0.460	0.0012
NOV 2,87	NOV 1,87	*****	*****	*****	*****	*****	*****	*****
NOV 4,87	NOV 3,87	0.10	0.21	0.045	0.050	0.075	0.520	0.0407
NOV 5,87	NOV 4,87	0.62	0.21	0.170	0.085	0.050	!IS *****	0.0005
NOV 6,87	NOV 5,87	0.16	0.15	0.040	<T 0.020	<T 0.015	0.220	0.0004
NOV 7,87	NOV 6,87	0.12	0.23	0.045	<T 0.015	0.120	0.325	0.0004
NOV 8,87	NOV 7,87	0.24	0.13	0.030	0.030	<T 0.015	0.155	0.0447
NOV 9,87	NOV 8,87	0.14	0.21	<T 0.015	0.060	0.050	0.365	0.0525
NOV 18,87	NOV 17,87	0.40	0.26	0.060	0.045	0.080	0.615	0.0316
NOV 19,87	NOV 18,87	0.20	0.15	0.040	0.030	<T 0.020	0.900	0.0100
NOV 20,87	NOV 19,87	0.72	0.19	0.140	0.045	0.030	0.650	UG 0.0002

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
NOV 21,87	NOV 20,87	500 500	100 300	2	1.7	2	62792	2	1	37	NHCH
NOV 25,87	NOV 24,87	500 500	1300 1430	3	2.3	2	62794	2	1	70	JH
NOV 26,87	NOV 25,87	500 500	500 1800	3	41.6	2	62796	2	1	95	JHM
NOV 29,87	NOV 28,87	500 1100	1800 2100	1	9.8	2	62798	2	1	100	J
NOV 30,87	NOV 29,87	1100 500	2200 300	1	1.4	2	62800	2	1	81	
DEC 1,87	NOV 30,87	500 500	1800 2000	3	1.5	2	62802	2	1	76	
DEC 2,87	DEC 1,87	500 500	500 1600	2	1.3	2	62804	2	1	10	
DEC 3,87	DEC 2,87	500 500	700 1000	2	1.7	2	62806	2	1	41	N
DEC 4,87	DEC 3,87	500 500	**** ****	2	2.9	2	62808	2	1	21	N
DEC 8,87	DEC 7,87	500 500	**** ****	3	0.8	2	62810	2	1	122	N
DEC 9,87	DEC 8,87	500 500	2200 300	1	3.5	2	62812	2	1	97	J
DEC 10,87	DEC 9,87	500 500	1000 1300	1	5.9	2	62814	2	1	112	JM
DEC 12,87	DEC 11,87	500 500	1600 200	1	4.0	2	62816	2	1	101	
DEC 13,87	DEC 12,87	500 500	1300 1700	2	5.9	2	62818	2	1	51	
DEC 14,87	DEC 13,87	500 500	1000 1100	1	0.1	2	62820	2	1	****	E
DEC 16,87	DEC 15,87	500 500	530 1100	2	29.0	2	62822	2	1	54	C
DEC 20,87	DEC 19,87	500 1100	2000 1000	3	21.4	2	62824	2	1	86	X
DEC 22,87	DEC 21,87	500 500	1200 1900	3	0.5	2	62826	2	1	****	E
DEC 25,87	DEC 24,87	500 500	100 300	1	9.6	2	62828	2	1	98	N

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 11

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
NOV 21,87	NOV 20,87	41.0	<T 0.5	*****	6.36	*****	0.0166	<T 0.15	<T 0.03
NOV 25,87	NOV 24,87	104.0	19.0	3.81	4.44	*****	0.0606	1.60	0.42
NOV 26,87	NOV 25,87	2542.0	10.0	3.84	4.53	*****	0.0514	0.75	LG 0.09
NOV 29,87	NOV 28,87	629.0	11.0	3.86	4.56	*****	0.0448	1.00	0.11
NOV 30,87	NOV 29,87	73.0	62.5	*****	3.83	*****	0.1600	3.95	1.15
DEC 1,87	NOV 30,87	74.0	22.0	*****	4.42	*****	0.0621	2.00	0.48
DEC 2,87	DEC 1,87	9.0	<T 0.5	*****	6.07	*****	0.0169	<T 0.25	<T 0.01
DEC 3,87	DEC 2,87	45.0	LG 4.0	*****	6.02	*****	0.0188	0.55	LG 0.10
DEC 4,87	DEC 3,87	40.0	D 11.0	*****	4.67	*****	0.0413	D 0.90	0.30
DEC 8,87	DEC 7,87	63.0	35.0	*****	4.08	*****	0.1050	2.85	0.50
DEC 9,87	DEC 8,87	218.0	34.0	3.61	4.09	*****	0.1030	2.45	0.53
DEC 10,87	DEC 9,87	425.0	18.0	3.77	4.40	*****	0.0614	1.70	0.27
DEC 12,87	DEC 11,87	259.0	38.0	3.98	4.08	*****	0.1020	2.50	0.78
DEC 13,87	DEC 12,87	196.0	15.0	4.77	5.01	*****	0.0327	2.15	0.44
DEC 14,87	DEC 13,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 16,87	DEC 15,87	1005.0	15.0	4.34	4.46	*****	0.0522	1.60	0.27
DEC 20,87	DEC 19,87	1182.0	*****	*****	*****	*****	*****	*****	*****
DEC 22,87	DEC 21,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 25,87	DEC 24,87	606.0	24.0	4.41	4.41	*****	0.0666	2.00	0.43



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : WELLESLEY/DAILY/AEROCHEM

#04

PAGE : 12

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
NOV 21,87	NOV 20,87	<T 0.04	0.09	<T 0.015	<T 0.015	0.035	0.065	0.0004
NOV 25,87	NOV 24,87	0.34	0.43	0.055	<T 0.020	0.120	0.360	0.0363
NOV 26,87	NOV 25,87	<W 0.02	<T 0.01	<W 0.005	<W 0.005	<W 0.005	0.065	0.0295
NOV 29,87	NOV 28,87	<W 0.02	0.06	<W 0.005	<W 0.005	<T 0.010	0.080	0.0275
NOV 30,87	NOV 29,87	0.20	0.12	<T 0.020	<T 0.005	0.030	0.215	0.1479
DEC 1,87	NOV 30,87	0.16	0.22	<T 0.015	<T 0.010	0.030	0.520	0.0380
DEC 2,87	DEC 1,87	!IS *****	<T 0.01	!IS *****	!IS *****	!IS *****	0.065	0.0009
DEC 3,87	DEC 2,87	!IS *****	0.23	!IS *****	!IS *****	!IS *****	0.195	0.0010
DEC 4,87	DEC 3,87	!IS *****	D 0.07	!IS *****	!IS *****	!IS *****	D 0.205	D 0.0214
DEC 8,87	DEC 7,87	0.24	0.30	0.040	<T 0.010	0.150	0.125	0.0832
DEC 9,87	DEC 8,87	0.22	0.45	0.045	<T 0.005	0.190	0.165	0.0813
DEC 10,87	DEC 9,87	<T 0.08	0.08	<T 0.015	<T 0.005	0.055	0.305	0.0398
DEC 12,87	DEC 11,87	0.18	0.14	<T 0.020	<T 0.015	0.030	0.325	0.0832
DEC 13,87	DEC 12,87	0.28	0.24	0.040	0.055	0.045	0.710	0.0098
DEC 14,87	DEC 13,87	*****	*****	*****	*****	*****	*****	*****
DEC 16,87	DEC 15,87	0.16	<T 0.01	0.040	<T 0.020	<T 0.020	0.145	0.0347
DEC 20,87	DEC 19,87	*****	*****	*****	*****	*****	*****	*****
DEC 22,87	DEC 21,87	*****	*****	*****	*****	*****	*****	*****
DEC 25,87	DEC 24,87	0.18	0.07	<T 0.010	<T 0.010	0.070	0.270	0.0389

PART VII

QUEBEC INTERCOMPARISON SITE

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 1

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
JAN 3,87	JAN 2,87	825 840	1735 ****	2	14.3	2	75051	2	1	U 55	EGC
JAN 4,87	JAN 3,87	845 850	**** ****	2	0.3	2	75052	2	1	****	E N
JAN 5,87	JAN 4,87	850 840	300 700	2	0.1	2	75053	2	1	****	E N
JAN 6,87	JAN 5,87	845 850	815 930	2	0.1	2	75054	2	1	****	E N
JAN 7,87	JAN 6,87	855 820	710 820	2	0.4	2	75055	2	1	101	
JAN 8,87	JAN 7,87	825 835	1800 835	2	10.2	2	75056	2	1	26	N
JAN 9,87	JAN 8,87	840 825	840 1400	2	0.3	2	75057	2	1	****	E N
JAN 10,87	JAN 9,87	840 850	840 1300	2	0.1	2	75058	2	1	****	E N
JAN 11,87	JAN 10,87	855 835	1000 1545	2	2.8	2	75059	2	1	77	
JAN 12,87	JAN 11,87	840 830	840 830	2	12.0	2	75060	2	1	40	N
JAN 13,87	JAN 12,87	835 845	1400 845	2	2.2	2	75061	2	1	28	N
JAN 14,87	JAN 13,87	850 825	850 1400	2	0.1	2	75062	2	1	****	E N
JAN 15,87	JAN 14,87	830 810	400 830	1	0.1	2	75063	2	1	****	E N
JAN 16,87	JAN 15,87	815 830	815 200	3	6.8	2	75064	2	1	73	C
JAN 19,87	JAN 18,87	820 825	1320 2100	3	7.2	2	75065	2	1	59	
JAN 20,87	JAN 19,87	830 830	830 850	2	0.1	2	75066	2	1	****	E N
JAN 21,87	JAN 20,87	835 825	300 825	2	0.1	2	75067	2	1	****	E N
JAN 22,87	JAN 21,87	830 830	830 1530	2	0.6	2	75068	2	1	49	N
JAN 23,87	JAN 22,87	835 820	1540 820	2	17.5	2	75069	2	1	57	CM
JAN 24,87	JAN 23,87	825 835	825 1600	2	1.4	2	75070	2	1	34	N
JAN 25,87	JAN 24,87	840 840	840 1600	2	1.3	2	75071	2	1	7	XN
JAN 29,87	JAN 28,87	810 815	830 915	2	0.1	2	75072	2	1	****	E N
JAN 30,87	JAN 29,87	820 840	820 1610	2	0.3	2	75073	2	1	98	
JAN 31,87	JAN 30,87	845 845	1245 845	2	2.8	2	75074	2	1	80	
FEB 1,87	JAN 31,87	850 835	**** 1610	2	2.2	2	75076	2	1	29	N
FEB 2,87	FEB 1,87	840 840	200 840	2	1.4	2	75077	2	1	102	
FEB 3,87	FEB 2,87	845 840	845 840	3	3.1	2	75078	2	1	U 161	GE
FEB 4,87	FEB 3,87	845 830	845 715	2	1.3	2	75079	2	1	79	
FEB 5,87	FEB 4,87	835 825	1130 1150	2	0.1	2	75080	2	1	****	E N
FEB 6,87	FEB 5,87	830 835	2300 700	2	2.4	2	75081	2	1	69	
FEB 7,87	FEB 6,87	840 835	200 835	2	3.0	2	75082	2	1	74	
FEB 8,87	FEB 7,87	840 830	840 1345	2	1.8	2	75083	2	1	88	
FEB 9,87	FEB 8,87	835 815	1050 700	2	10.2	2	75084	2	1	74	
FEB 10,87	FEB 9,87	820 830	820 915	2	0.1	2	75085	2	1	****	E N
FEB 11,87	FEB 10,87	835 830	1315 1430	2	0.1	2	75086	2	1	****	E N
FEB 13,87	FEB 12,87	820 830	2010 830	2	3.0	2	75087	2	1	81	
FEB 14,87	FEB 13,87	835 835	835 930	2	0.1	2	75088	2	1	****	E N
FEB 24,87	FEB 23,87	825 830	200 645	2	0.1	2	75089	2	1	****	E N
FEB 25,87	FEB 24,87	835 850	940 1015	2	0.1	2	75091	2	1	****	E N
MAR 1,87	FEB 28,87	805 815	710 815	2	0.2	2	75092	2	1	****	E N

PAGE : 2

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PAGE : 3

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ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 4

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
MAR 2,87	MAR 1,87	820 820	820 1740	3	11.8	2	75093	2	1	U 96	G
MAR 3,87	MAR 2,87	825 850	825 850	2	4.7	2	75094	2	1	U 76	G
MAR 4,87	MAR 3,87	855 835	855 1600	2	0.7	2	75095	2	1	13	E N
MAR 9,87	MAR 8,87	815 825	700 825	2	0.1	2	75096	2	1	****	E N
MAR 10,87	MAR 9,87	830 830	****	2	0.1	2	75097	2	1	****	E N
MAR 16,87	MAR 15,87	825 825	650 825	2	0.4	2	75098	2	1	136	N
MAR 17,87	MAR 16,87	830 835	830 835	2	9.2	2	75099	2	1	67	
MAR 18,87	MAR 17,87	840 830	840 1500	2	0.1	2	75100	2	1	****	E N
MAR 20,87	MAR 19,87	830 835	2030 600	2	2.2	2	75101	2	1	87	
MAR 21,87	MAR 20,87	840 835	30 835	3	1.5	2	75102	2	1	126	N
MAR 22,87	MAR 21,87	840 815	840 1445	1	1.4	1	75103	2	1	106	C
MAR 26,87	MAR 25,87	825 830	500 830	1	2.1	1	75105	2	1	99	
MAR 27,87	MAR 26,87	835 830	835 400	1	5.8	1	75106	2	1	103	
MAR 28,87	MAR 27,87	835 805	1810 1820	1	0.1	1	75107	2	1	****	E N
MAR 29,87	MAR 28,87	810 830	850 1025	1	0.1	1	75108	2	1	****	E N
MAR 31,87	MAR 30,87	825 825	300 715	1	0.8	2	75109	2	1	122	N
APR 1,87	MAR 31,87	830 825	1825 300	1	6.8	1	75110	2	1	73	C
APR 2,87	APR 1,87	830 825	2025 2045	2	0.1	1	75111	2	1	****	E N
APR 3,87	APR 2,87	830 835	1635 640	3	4.1	2	75112	2	1	95	
APR 5,87	APR 4,87	840 835	200 840	1	1.0	1	75113	2	1	92	
APR 6,87	APR 5,87	840 720	840 1500	1	12.0	1	75114	2	1	102	
APR 7,87	APR 6,87	725 835	200 835	1	1.1	1	75115	2	1	82	HM
APR 8,87	APR 7,87	840 810	840 745	3	7.0	1	75116	2	1	88	
APR 9,87	APR 8,87	815 810	1300 1325	1	0.1	1	75117	2	1	****	E N
APR 18,87	APR 17,87	815 830	****	1	0.2	1	75118	2	1	62	E
APR 22,87	APR 21,87	810 830	****	1	0.1	1	75120	2	1	****	EJ
APR 24,87	APR 23,87	805 835	915 630	1	14.6	1	75121	2	1	100	C
APR 29,87	APR 28,87	840 815	2100 815	2	2.6	1	75122	2	1	143	
APR 30,87	APR 29,87	820 805	****	3	10.6	1	75123	2	1	103	NHCM
MAY 1,87	APR 30,87	805 815	1000 1300	1	3.8	1	75124	2	1	97	
MAY 6,87	MAY 5,87	815 835	1830 835	1	3.4	1	75125	2	1	97	HC
MAY 7,87	MAY 6,87	840 825	100 500	1	0.8	1	75126	2	1	56	HCM
MAY 10,87	MAY 9,87	800 835	815 1300	1	2.2	1	75127	2	1	72	
MAY 12,87	MAY 11,87	815 900	545 730	1	11.8	1	75128	2	1	96	
MAY 15,87	MAY 14,87	755 830	400 730	1	7.2	1	75129	2	1	103	
MAY 16,87	MAY 15,87	835 815	1005 1015	1	0.1	1	75130	2	1	****	E N
MAY 17,87	MAY 16,87	820 800	1740 1755	1	0.1	1	75131	2	1	****	E N
MAY 18,87	MAY 17,87	805 800	630 655	1	0.1	1	75132	2	1	****	E N
MAY 23,87	MAY 22,87	800 835	1905 200	1	3.1	1	75134	2	1	96	A
MAY 24,87	MAY 23,87	840 840	1315 1440	1	17.8	1	75135	2	1	102	

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 5

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
MAR 2,87	MAR 1,87	732.0	8.0	*****	4.83	*****	0.0308	0.50	0.12
MAR 3,87	MAR 2,87	230.0	28.5	*****	4.11	*****	0.0945	1.55	0.57
MAR 4,87	MAR 3,87	6.0	*****	*****	*****	*****	*****	*****	*****
MAR 9,87	MAR 8,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 10,87	MAR 9,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 16,87	MAR 15,87	35.0	9.0	*****	5.19	*****	0.0238	0.80	0.36
MAR 17,87	MAR 16,87	400.0	9.0	*****	4.73	*****	0.0339	0.80	0.18
MAR 18,87	MAR 17,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 20,87	MAR 19,87	124.0	12.0	*****	4.72	*****	0.0368	1.10	0.35
MAR 21,87	MAR 20,87	122.0	11.0	*****	4.74	*****	0.0357	1.00	0.20
MAR 22,87	MAR 21,87	96.0	9.3	*****	4.69	*****	0.0365	0.65	0.16
MAR 26,87	MAR 25,87	134.0	44.0	*****	3.99	*****	0.1340	3.70	1.19
MAR 27,87	MAR 26,87	384.0	49.0	*****	3.91	*****	0.1550	4.35	0.97
MAR 28,87	MAR 27,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 29,87	MAR 28,87	*****	*****	*****	*****	*****	*****	*****	*****
MAR 31,87	MAR 30,87	63.0	5.0	*****	5.15	*****	0.0232	0.45	0.09
APR 1,87	MAR 31,87	319.0	10.0	*****	4.63	*****	0.0421	0.80	0.23
APR 2,87	APR 1,87	*****	*****	*****	*****	*****	*****	*****	*****
APR 3,87	APR 2,87	250.0	42.0	*****	3.98	*****	0.1330	2.55	1.18
APR 5,87	APR 4,87	59.0	31.0	*****	4.10	*****	0.1030	2.15	0.73
APR 6,87	APR 5,87	785.0	4.0	*****	5.09	*****	0.0243	0.30	0.08
APR 7,87	APR 6,87	58.0	3.0	*****	5.70	*****	0.0171	0.45	0.06
APR 8,87	APR 7,87	395.0	2.0	*****	5.52	*****	0.0190	0.15	0.04
APR 9,87	APR 8,87	*****	*****	*****	*****	*****	*****	*****	*****
APR 18,87	APR 17,87	8.0	*****	*****	*****	*****	*****	*****	*****
APR 22,87	APR 21,87	*****	*****	*****	*****	*****	*****	*****	*****
APR 24,87	APR 23,87	938.0	52.0	*****	3.94	*****	0.1370	5.05	0.83
APR 29,87	APR 28,87	240.0	10.0	*****	5.82	*****	0.0322	1.00	0.14
APR 30,87	APR 29,87	700.0	12.5	*****	4.66	*****	0.0393	1.00	0.35
MAY 1,87	APR 30,87	237.0	16.5	*****	7.06	*****	0.0216	2.40	0.16
MAY 6,87	MAY 5,87	213.0	5.0	*****	5.63	*****	0.0158	0.60	0.09
MAY 7,87	MAY 6,87	29.0	7.0	*****	7.62	*****	0.0300	0.75	0.19
MAY 10,87	MAY 9,87	102.0	33.5	*****	7.06	*****	0.0330	4.95	1.17
MAY 12,87	MAY 11,87	729.0	70.5	*****	4.08	*****	0.1340	10.60	1.59
MAY 15,87	MAY 14,87	478.0	41.0	*****	4.05	*****	0.0985	3.70	0.70
MAY 16,87	MAY 15,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 17,87	MAY 16,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 18,87	MAY 17,87	*****	*****	*****	*****	*****	*****	*****	*****
MAY 23,87	MAY 22,87	191.0	87.6	*****	3.74	*****	0.2270	10.50	1.33
MAY 24,87	MAY 23,87	1166.0	48.1	*****	4.05	*****	0.1300	5.10	0.90



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 6

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
MAR 2,87	MAR 1,87	<T 0.10	0.05	<T 0.020	<T 0.005	<T 0.005	<T 0.010	0.0148
MAR 3,87	MAR 2,87	<T 0.06	0.11	<T 0.010	0.025	0.075	0.050	0.0776
MAR 4,87	MAR 3,87	*****	*****	*****	*****	*****	*****	*****
MAR 9,87	MAR 8,87	*****	*****	*****	*****	*****	*****	*****
MAR 10,87	MAR 9,87	*****	*****	*****	*****	*****	*****	*****
MAR 16,87	MAR 15,87	!IS *****	0.25	!IS *****	!IS *****	!IS *****	!IS *****	0.0065
MAR 17,87	MAR 16,87	<T 0.10	0.07	<T 0.005	<T 0.020	0.045	0.080	0.0186
MAR 18,87	MAR 17,87	*****	*****	*****	*****	*****	*****	*****
MAR 20,87	MAR 19,87	0.16	0.25	<T 0.010	<T 0.025	0.130	0.260	0.0191
MAR 21,87	MAR 20,87	<T 0.06	0.40	<T 0.010	0.050	0.155	0.200	0.0182
MAR 22,87	MAR 21,87	<T 0.06	0.11	<T 0.010	<T 0.015	0.035	0.100	0.0204
MAR 26,87	MAR 25,87	0.44	0.28	0.065	0.045	0.115	0.395	0.1023
MAR 27,87	MAR 26,87	0.12	0.24	<T 0.015	<T 0.010	0.025	0.420	0.1230
MAR 28,87	MAR 27,87	*****	*****	*****	*****	*****	*****	*****
MAR 29,87	MAR 28,87	*****	*****	*****	*****	*****	*****	*****
MAR 31,87	MAR 30,87	<T 0.04	0.21	<T 0.010	<T 0.005	0.125	0.035	0.0071
APR 1,87	MAR 31,87	<T 0.04	<W 0.01	<T 0.010	<T 0.005	<T 0.015	0.070	0.0234
APR 2,87	APR 1,87	*****	*****	*****	*****	*****	*****	*****
APR 3,87	APR 2,87	<T 0.04	0.10	<T 0.010	<T 0.015	<T 0.010	0.370	0.1047
APR 5,87	APR 4,87	0.14	0.34	0.035	0.030	0.130	<T 0.015	0.0794
APR 6,87	APR 5,87	<T 0.02	<W 0.01	<T 0.005	<T 0.005	<T 0.005	<T 0.005	0.0081
APR 7,87	APR 6,87	<T 0.04	0.09	<T 0.005	0.025	0.125	0.045	UG 0.0020
APR 8,87	APR 7,87	<W 0.02	<W 0.01	<W 0.005	<T 0.005	<T 0.005	0.055	UG 0.0030
APR 9,87	APR 8,87	*****	*****	*****	*****	*****	*****	*****
APR 18,87	APR 17,87	*****	*****	*****	*****	*****	*****	*****
APR 22,87	APR 21,87	*****	*****	*****	*****	*****	*****	*****
APR 24,87	APR 23,87	0.32	0.18	0.050	<T 0.015	0.050	0.565	0.1148
APR 29,87	APR 28,87	<T 0.04	0.12	<T 0.010	<T 0.010	0.095	0.100	UG 0.0015
APR 30,87	APR 29,87	<T 0.08	0.10	<T 0.005	<T 0.005	0.050	0.180	0.0219
MAY 1,87	APR 30,87	1.32	0.14	0.090	<T 0.020	0.085	0.710	UG 0.0001
MAY 6,87	MAY 5,87	0.34	0.07	0.025	<T 0.015	0.030	0.050	0.0023
MAY 7,87	MAY 6,87	0.30	0.06	<T 0.025	<W 0.005	0.030	0.115	UG 0.0000
MAY 10,87	MAY 9,87	1.70	0.37	0.385	UG 0.300	0.140	1.540	UG 0.0001
MAY 12,87	MAY 11,87	UG 2.26	0.39	0.360	0.145	0.075	1.850	0.0832
MAY 15,87	MAY 14,87	0.26	0.15	0.045	<T 0.005	0.050	0.415	0.0891
MAY 16,87	MAY 15,87	*****	*****	*****	*****	*****	*****	*****
MAY 17,87	MAY 16,87	*****	*****	*****	*****	*****	*****	*****
MAY 18,87	MAY 17,87	*****	*****	*****	*****	*****	*****	*****
MAY 23,87	MAY 22,87	0.46	0.46	0.075	0.130	UG 0.495	1.050	0.1820
MAY 24,87	MAY 23,87	0.18	0.21	0.025	0.045	D 0.145	0.795	0.0891

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 7

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
MAY 25,87	MAY 24,87	845 820	1905 200	1	0.2	1	75137	2	1	****	E N
MAY 27,87	MAY 26,87	815 825	2115 200	1	0.4	1	75138	2	1	85	
MAY 28,87	MAY 27,87	830 825	1610 730	1	0.7	1	75139	2	1	86	
MAY 29,87	MAY 28,87	835 825	1800 2000	1	25.0	1	75140	2	1	106	C
MAY 30,87	MAY 29,87	835 830	1825 2300	1	0.7	1	75141	2	1	73	
MAY 31,87	MAY 30,87	835 825	1810 1813	1	0.1	1	75142	2	1	****	E N
JUN 1,87	MAY 31,87	830 850	1350 1500	1	42.2	1	75143	2	1	103	
JUN 2,87	JUN 1,87	900 805	1010 1030	1	0.1	1	75144	2	1	****	E N
JUN 3,87	JUN 2,87	810 825	1305 1515	1	4.6	1	75145	2	1	99	
JUN 4,87	JUN 3,87	835 815	1550 300	1	3.2	1	75146	2	1	101	
JUN 5,87	JUN 4,87	825 825	1400 2100	1	2.4	1	75147	2	1	83	
JUN 6,87	JUN 5,87	835 850	2130 2215	1	0.3	1	75148	2	1	****	E N
JUN 8,87	JUN 7,87	830 840	615 755	1	2.8	1	75149	2	1	102	
JUN 9,87	JUN 8,87	845 850	1920 500	1	32.8	1	75150	2	1	U 103	EG
JUL 3,87	JUL 2,87	1930 825	**** 830	1	2.1	1	75165	2	1	107	C X
JUL 4,87	JUL 3,87	830 845	125 220	1	7.2	1	75166	2	1	94	C
JUL 5,87	JUL 4,87	845 815	1050 1115	1	2.2	1	75167	2	1	U 131	EGC
JUL 9,87	JUL 8,87	800 805	1800 1805	1	0.1	1	75168	2	1	****	E N
JUL 10,87	JUL 9,87	855 820	1620 1710	1	28.8	1	75169	2	1	U 107	EGC
JUL 11,87	JUL 10,87	845 835	2015 2110	1	6.6	1	75170	2	1	98	C
JUL 12,87	JUL 11,87	840 835	310 415	1	9.6	1	75171	2	1	102	C
JUL 14,87	JUL 12,87	840 755	1820 1830	1	0.6	1	75172	2	1	U 72	EGB Y2
JUL 15,87	JUL 14,87	800 800	1500 1620	1	10.6	1	75174	2	1	U 97	JC
JUL 18,87	JUL 15,87	815 830	**** ****	1	0.1	1	75175	2	1	****	JE Y3
JUL 19,87	JUL 18,87	835 830	1745 2100	1	10.2	1	75176	2	1	U 101	JB
JUL 21,87	JUL 20,87	800 1000	800 845	1	15.2	1	75177	2	1	U 103	JC
JUL 25,87	JUL 21,87	1000 900	1700 1800	1	27.7	1	75178	2	1	U 104	JC Y4
JUL 26,87	JUL 25,87	905 845	230 330	1	22.3	1	75179	2	1	U 105	JC
JUL 27,87	JUL 26,87	845 850	1030 1100	1	5.2	1	75180	2	1	U 86	JC
JUL 30,87	JUL 27,87	850 835	**** ****	1	0.1	1	75181	2	1	****	E NY3
AUG 3,87	JUL 30,87	840 840	2205 800	1	27.8	1	75182	2	1	103	C Y4
AUG 4,87	AUG 3,87	845 840	**** ****	1	0.1	1	75183	2	1	****	E N
AUG 5,87	AUG 4,87	845 840	**** ****	1	0.1	1	75184	2	1	****	E N
AUG 8,87	AUG 5,87	840 850	1615 1700	1	8.2	1	75185	2	1	102	C Y3
AUG 10,87	AUG 8,87	850 925	2135 200	1	6.0	1	75186	2	1	103	C Y2
AUG 11,87	AUG 10,87	930 930	930 1400	1	4.8	1	75187	2	1	****	EGC
AUG 15,87	AUG 11,87	900 845	1145 1500	1	0.4	1	75189	2	1	117	Y4
AUG 16,87	AUG 15,87	845 930	**** ****	1	0.1	1	75190	2	1	****	E N
AUG 18,87	AUG 16,87	950 840	2135 2300	1	0.1	1	75191	2	1	****	E NY2
AUG 20,87	AUG 19,87	845 850	1650 1710	1	0.2	1	75192	2	1	****	E N

PAGE : 8

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PAGE : 9

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ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 10

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
AUG 21,87	AUG 20,87	855 825	1835 1950	1	8.2	1	75193	2	1	102	HCM
AUG 22,87	AUG 21,87	830 820	500 600	1	0.1	1	75194	2	1	****	N
AUG 23,87	AUG 22,87	825 835	1550 1750	1	8.4	1	75195	2	1	101	HM
AUG 26,87	AUG 25,87	825 905	1250 1255	1	0.1	1	75196	2	1	****	N
AUG 29,87	AUG 28,87	820 820	500 820	1	5.4	1	75197	2	1	102	
AUG 30,87	AUG 29,87	825 830	825 1245	1	1.0	1	75198	2	1	39	N
SEP 1,87	AUG 31,87	835 745	1945 2200	1	7.6	1	75199	2	1	102	
SEP 2,87	SEP 1,87	750 825	2130 2200	1	0.3	1	75200	2	1	****	N
SEP 7,87	SEP 6,87	830 820	510 820	1	0.5	1	75201	2	1	87	
SEP 8,87	SEP 7,87	825 845	820 1045	1	0.2	1	75202	2	1	****	N
SEP 9,87	SEP 8,87	850 835	1815 500	1	16.8	1	75204	2	1	67	
SEP 10,87	SEP 9,87	840 815	840 815	1	1.2	1	75205	2	1	66	
SEP 11,87	SEP 10,87	825 815	825 1330	1	0.6	1	75206	2	1	70	
SEP 12,87	SEP 11,87	815 825	530 825	1	4.4	1	75207	2	1	108	
SEP 13,87	SEP 12,87	830 840	830 840	1	31.4	1	75208	2	1	80	
SEP 14,87	SEP 13,87	850 825	850 200	1	22.8	1	75210	2	1	27	NM
SEP 17,87	SEP 16,87	825 820	1805 1815	1	0.1	1	75211	2	1	****	E
SEP 20,87	SEP 19,87	825 810	620 ****	1	0.4	1	75212	2	1	89	
SEP 21,87	SEP 20,87	815 830	815 600	1	5.2	1	75213	2	1	102	M
SEP 22,87	SEP 21,87	835 845	1005 1430	1	0.2	1	75214	2	1	****	E
SEP 24,87	SEP 23,87	825 830	2135 200	1	4.4	1	75215	2	1	93	A
SEP 26,87	SEP 25,87	835 820	625 745	1	4.2	1	75216	2	1	91	
SEP 27,87	SEP 26,87	830 830	1145 1515	1	0.8	1	75217	2	1	58	
SEP 29,87	SEP 28,87	825 830	1325 1330	1	0.1	1	75218	2	1	****	E
SEP 30,87	SEP 29,87	840 820	540 730	1	2.9	1	75219	2	1	97	
OCT 1,87	SEP 30,87	830 830	1600 ****	1	10.2	1	75220	2	1	98	
OCT 2,87	OCT 1,87	840 835	1015 1400	1	0.2	1	75221	2	1	****	E
OCT 3,87	OCT 2,87	845 830	2055 600	1	4.6	1	75222	2	1	96	N
OCT 4,87	OCT 3,87	835 835	1740 835	1	13.0	1	75223	2	1	97	X
OCT 5,87	OCT 4,87	840 755	****	3	****	2	75224	2	1	****	X
OCT 8,87	OCT 7,87	810 810	825 915	1	0.1	1	75226	2	1	****	N
OCT 9,87	OCT 8,87	815 840	1810 2100	1	3.8	1	75227	2	1	84	HCM
OCT 18,87	OCT 17,87	830 750	210 215	1	0.1	1	75228	2	1	****	N
OCT 21,87	OCT 20,87	830 820	1815 600	1	15.0	1	75229	2	1	101	
OCT 22,87	OCT 21,87	830 850	1240 2000	1	1.2	1	75230	2	1	59	H
OCT 23,87	OCT 22,87	855 840	400 630	3	1.2	2	75231	2	1	97	
OCT 24,87	OCT 23,87	855 845	1300 1500	1	****	1	75232	2	1	****	
OCT 25,87	OCT 24,87	855 830	400 600	1	11.8	1	75233	2	1	100	M
OCT 26,87	OCT 25,87	840 800	940 1430	3	0.2	1	75234	2	1	****	N
OCT 28,87	OCT 27,87	830 835	1835 835	1	33.8	1	75235	2	1	104	HCM

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 11

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
AUG 21,87	AUG 20,87	537.0	6.5	*****	UG 7.24	*****	0.0148	0.90	0.19
AUG 22,87	AUG 21,87	*****	*****	*****	*****	*****	*****	*****	*****
AUG 23,87	AUG 22,87	549.0	14.0	*****	4.60	*****	0.0478	1.80	0.15
AUG 26,87	AUG 25,87	*****	*****	*****	*****	*****	*****	*****	*****
AUG 29,87	AUG 28,87	356.0	8.5	*****	4.89	*****	0.0329	0.75	0.17
AUG 30,87	AUG 29,87	25.0	5.0	*****	5.27	*****	0.0221	0.50	0.10
SEP 1,87	AUG 31,87	499.0	29.0	*****	4.21	*****	0.0856	2.95	0.29
SEP 2,87	SEP 1,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 7,87	SEP 6,87	28.0	35.0	*****	4.23	*****	0.0875	4.30	0.75
SEP 8,87	SEP 7,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 9,87	SEP 8,87	724.0	7.5	*****	!IS *****	*****	!IS *****	0.60	0.13
SEP 10,87	SEP 9,87	51.0	23.5	*****	4.50	*****	0.0568	2.55	0.67
SEP 11,87	SEP 10,87	27.0	29.5	*****	4.21	*****	0.0852	3.50	0.30
SEP 12,87	SEP 11,87	305.0	!IS *****	*****	!IS *****	*****	!IS *****	!IS *****	!IS *****
SEP 13,87	SEP 12,87	1630.0	21.0	*****	4.31	*****	0.0645	1.95	0.27
SEP 14,87	SEP 13,87	409.0	LG 3.0	*****	5.21	*****	0.0201	LG 0.30	<T 0.04
SEP 17,87	SEP 16,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 20,87	SEP 19,87	23.0	23.0	*****	4.27	*****	0.0714	1.80	0.33
SEP 21,87	SEP 20,87	343.0	4.5	*****	5.11	*****	0.0227	LG 0.35	0.07
SEP 22,87	SEP 21,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 24,87	SEP 23,87	265.0	11.0	*****	4.82	*****	0.0324	1.60	0.21
SEP 26,87	SEP 25,87	247.0	12.0	*****	UG 7.06	*****	0.0133	2.05	0.16
SEP 27,87	SEP 26,87	30.0	6.0	*****	4.87	*****	0.0292	0.95	0.10
SEP 29,87	SEP 28,87	*****	*****	*****	*****	*****	*****	*****	*****
SEP 30,87	SEP 29,87	182.0	!CR *****	*****	5.66	*****	0.0171	!CR *****	<W 0.01
OCT 1,87	SEP 30,87	646.0	15.0	*****	4.59	*****	0.0471	1.70	0.30
OCT 2,87	OCT 1,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 3,87	OCT 2,87	284.0	*****	*****	*****	*****	*****	*****	*****
OCT 4,87	OCT 3,87	813.0	*****	*****	*****	*****	*****	*****	*****
OCT 5,87	OCT 4,87	2251.0	*****	*****	*****	*****	*****	*****	*****
OCT 8,87	OCT 7,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 9,87	OCT 8,87	206.0	LG 3.0	*****	5.81	*****	0.0195	0.85	0.15
OCT 18,87	OCT 17,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 21,87	OCT 20,87	972.0	40.0	*****	4.05	*****	0.1240	2.80	0.88
OCT 22,87	OCT 21,87	46.0	13.0	*****	5.81	*****	0.0211	2.80	0.42
OCT 23,87	OCT 22,87	75.0	38.0	*****	4.05	*****	0.1170	1.25	1.29
OCT 24,87	OCT 23,87	25.0	86.0	*****	3.94	*****	0.1810	3.80	2.42
OCT 25,87	OCT 24,87	760.0	52.0	*****	4.08	*****	0.1310	3.65	0.87
OCT 26,87	OCT 25,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 28,87	OCT 27,87	2271.0	3.5	*****	4.99	*****	0.0264	0.55	0.10



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 12

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
AUG 21,87	AUG 20,87	0.54	<W 0.01	0.055	0.030	<T 0.015	<W 0.005	UG 0.0001
AUG 22,87	AUG 21,87	*****	*****	*****	*****	*****	*****	*****
AUG 23,87	AUG 22,87	0.30	<T 0.02	<T 0.020	<T 0.020	0.030	0.220	0.0251
AUG 26,87	AUG 25,87	*****	*****	*****	*****	*****	*****	*****
AUG 29,87	AUG 28,87	0.12	<W 0.01	<T 0.010	0.025	0.055	0.060	0.0129
AUG 30,87	AUG 29,87	0.10	0.10	<T 0.010	0.030	0.110	<T 0.015	0.0054
SEP 1,87	AUG 31,87	0.12	<W 0.01	<T 0.010	<T 0.020	<T 0.005	0.255	0.0617
SEP 2,87	SEP 1,87	*****	*****	*****	*****	*****	*****	*****
SEP 7,87	SEP 6,87	!IS *****	0.12	!IS *****	!IS *****	!IS *****	!IS *****	0.0589
SEP 8,87	SEP 7,87	*****	*****	*****	*****	*****	*****	*****
SEP 9,87	SEP 8,87	!IS *****	<T 0.03	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****
SEP 10,87	SEP 9,87	0.24	0.09	<T 0.020	0.030	0.040	0.825	0.0316
SEP 11,87	SEP 10,87	!IS *****	0.06	!IS *****	!IS *****	!IS *****	0.400	0.0617
SEP 12,87	SEP 11,87	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****
SEP 13,87	SEP 12,87	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	0.0490
SEP 14,87	SEP 13,87	<W 0.02	<W 0.01	<W 0.005	<W 0.005	<W 0.005	<T 0.010	0.0062
SEP 17,87	SEP 16,87	*****	*****	*****	*****	*****	*****	*****
SEP 20,87	SEP 19,87	!IS *****	0.15	!IS *****	!IS *****	!IS *****	<W 0.005	0.0537
SEP 21,87	SEP 20,87	<W 0.02	<T 0.02	<W 0.005	<T 0.005	0.030	<T 0.020	0.0078
SEP 22,87	SEP 21,87	*****	*****	*****	*****	*****	*****	*****
SEP 24,87	SEP 23,87	0.20	<T 0.04	<T 0.010	0.045	<T 0.015	0.275	0.0151
SEP 26,87	SEP 25,87	1.38	0.09	0.105	0.055	0.035	0.345	UG 0.0001
SEP 27,87	SEP 26,87	!IS *****	<T 0.04	!IS *****	!IS *****	!IS *****	0.070	0.0135
SEP 29,87	SEP 28,87	*****	*****	*****	*****	*****	*****	*****
SEP 30,87	SEP 29,87	0.22	0.07	0.035	0.025	0.045	0.400	0.0022
OCT 1,87	SEP 30,87	<T 0.06	<T 0.04	<T 0.015	<T 0.020	<T 0.010	0.375	0.0257
OCT 2,87	OCT 1,87	*****	*****	*****	*****	*****	*****	*****
OCT 3,87	OCT 2,87	*****	*****	*****	*****	*****	*****	*****
OCT 4,87	OCT 3,87	*****	*****	*****	*****	*****	*****	*****
OCT 5,87	OCT 4,87	*****	*****	*****	*****	*****	*****	*****
OCT 8,87	OCT 7,87	*****	*****	*****	*****	*****	*****	*****
OCT 9,87	OCT 8,87	0.18	0.11	<T 0.020	<W 0.005	<T 0.015	0.185	0.0015
OCT 18,87	OCT 17,87	*****	*****	*****	*****	*****	*****	*****
OCT 21,87	OCT 20,87	0.14	0.11	<T 0.010	<T 0.020	<T 0.025	0.315	0.0891
OCT 22,87	OCT 21,87	0.28	0.15	<T 0.020	0.035	0.035	1.150	0.0015
OCT 23,87	OCT 22,87	0.34	0.17	0.030	<T 0.015	0.040	0.115	0.0891
OCT 24,87	OCT 23,87	0.74	0.33	0.120	0.065	0.045	!IS *****	0.1148
OCT 25,87	OCT 24,87	<T 0.08	0.08	<T 0.015	0.025	0.030	0.280	0.0832
OCT 26,87	OCT 25,87	*****	*****	*****	*****	*****	*****	*****
OCT 28,87	OCT 27,87	<W 0.02	<T 0.01	<W 0.005	<W 0.005	<T 0.010	<T 0.010	0.0102



ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 13

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
OCT 29,87	OCT 28,87	845 835	845 2100	1	6.3	1	75237	2	1	62	
OCT 30,87	OCT 29,87	845 830	300 305	1	0.1	1	75238	2	1	****	E N
OCT 31,87	OCT 30,87	835 715	1850 100	1	2.6	1	75239	2	1	100	E A
NOV 4,87	NOV 3,87	825 830	940 200	1	2.0	1	75241	2	1	83	
NOV 5,87	NOV 4,87	840 825	530 615	1	4.5	1	75242	2	1	99	
NOV 6,87	NOV 5,87	835 835	300 810	2	10.3	2	75243	2	1	U 54	I HCM
NOV 7,87	NOV 6,87	840 825	900 1400	2	0.2	2	75244	2	1	****	E N
NOV 8,87	NOV 7,87	830 830	930 1300	2	0.1	2	75245	2	1	****	E N
NOV 9,87	NOV 8,87	835 810	2100 715	1	12.8	1	75246	2	1	100	C N
NOV 11,87	NOV 10,87	825 825	900 1130	2	0.1	2	75247	2	1	****	E N
NOV 13,87	NOV 12,87	820 825	600 700	2	0.1	2	75248	2	1	****	E N
NOV 14,87	NOV 13,87	835 830	1330 1415	1	0.1	1	75249	2	1	****	E N
NOV 15,87	NOV 14,87	835 825	1345 1630	1	0.6	1	75250	2	1	****	E N
NOV 18,87	NOV 17,87	830 830	2235 400	1	13.8	1	75251	2	1	98	
NOV 19,87	NOV 18,87	840 830	1100 1215	1	1.8	1	75252	2	1	77	
NOV 21,87	NOV 20,87	815 820	1455 2200	3	5.8	2	75253	2	1	36	N
NOV 22,87	NOV 21,87	830 820	1030 820	2	4.3	2	75254	2	1	14	NM
NOV 23,87	NOV 22,87	825 830	820 1030	2	0.1	2	75255	2	1	****	E N
NOV 24,87	NOV 23,87	835 840	1930 200	1	****	1	75256	2	1	****	
NOV 25,87	NOV 24,87	845 825	845 1400	1	0.2	1	75257	2	1	****	E N
NOV 26,87	NOV 25,87	890 810	1815 810	3	29.0	2	75258	2	1	107	
NOV 27,87	NOV 26,87	815 825	815 1700	3	5.6	2	75259	2	1	83	
NOV 30,87	NOV 29,87	830 830	1815 830	1	18.0	1	75260	2	1	100	
DEC 1,87	NOV 30,87	835 840	835 1150	1	2.4	1	75261	2	1	78	
DEC 2,87	DEC 1,87	840 855	2130 855	3	1.6	2	75263	2	1	U 17	G X
DEC 3,87	DEC 2,87	900 825	1000 1600	2	0.3	2	75264	2	1	****	E N
DEC 4,87	DEC 3,87	830 825	845 915	2	0.1	2	75265	2	1	****	E N
DEC 5,87	DEC 4,87	835 845	910 1700	2	1.8	2	75266	2	1	78	X
DEC 6,87	DEC 5,87	850 820	1815 2300	2	2.2	2	75267	2	1	26	XN
DEC 7,87	DEC 6,87	825 835	1100 1330	2	0.1	2	75268	2	1	****	E N
DEC 8,87	DEC 7,87	840 835	840 1130	2	0.1	2	75269	2	1	****	E N
DEC 9,87	DEC 8,87	845 840	1600 2300	1	0.3	1	75270	2	1	129	
DEC 10,87	DEC 9,87	845 830	1455 1745	1	6.4	1	75271	2	1	100	
DEC 11,87	DEC 10,87	840 835	1020 1145	1	0.1	1	75272	2	1	****	E N
DEC 13,87	DEC 12,87	825 850	1750 300	1	1.2	1	75273	2	1	78	
DEC 14,87	DEC 13,87	855 830	910 2100	2	0.8	2	75274	2	1	37	N
DEC 16,87	DEC 15,87	820 815	1450 820	2	8.5	2	75275	2	1	72	
DEC 17,87	DEC 16,87	825 825	825 1500	2	7.7	2	75276	2	1	66	
DEC 18,87	DEC 17,87	830 805	1110 1245	2	0.1	2	75277	2	1	****	E N
DEC 19,87	DEC 18,87	810 840	500 840	2	1.1	2	75278	2	1	49	N

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 14

REMOVAL DATE	EXPOSURE DATE	VOLUME ML	CONDUCT. UMHO/CM	PH FIELD	PH LAB	TOTAL H+ TO PH8.3 MG/L	TOTAL H+ GRAN MG/L	SULPHATE MG/L	NITRATE AS N MG/L
OCT 29,87	OCT 28,87	251.0	11.0	*****	4.66	*****	0.0425	1.40	0.18
OCT 30,87	OCT 29,87	*****	*****	*****	*****	*****	*****	*****	*****
OCT 31,87	OCT 30,87	167.0	*****	*****	*****	*****	*****	*****	*****
NOV 4,87	NOV 3,87	107.0	*****	*****	*****	*****	*****	*****	*****
NOV 5,87	NOV 4,87	287.0	*****	*****	*****	*****	*****	*****	*****
NOV 6,87	NOV 5,87	357.0	*****	*****	*****	*****	*****	*****	*****
NOV 7,87	NOV 6,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 8,87	NOV 7,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 9,87	NOV 8,87	822.0	4.5	*****	4.08	*****	0.1290	2.85	1.03
NOV 11,87	NOV 10,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 13,87	NOV 12,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 14,87	NOV 13,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 15,87	NOV 14,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 18,87	NOV 17,87	870.0	9.0	*****	4.84	*****	0.0343	0.80	0.17
NOV 19,87	NOV 18,87	89.0	26.0	*****	4.43	*****	0.0659	2.50	0.62
NOV 21,87	NOV 20,87	134.0	19.0	*****	4.84	*****	0.0403	1.60	0.99
NOV 22,87	NOV 21,87	40.0	8.5	*****	7.35	*****	0.0158	0.55	0.14
NOV 23,87	NOV 22,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 24,87	NOV 23,87	41.0	94.0	*****	3.77	*****	0.2260	9.35	1.34
NOV 25,87	NOV 24,87	*****	*****	*****	*****	*****	*****	*****	*****
NOV 26,87	NOV 25,87	1997.0	27.0	*****	4.19	*****	0.0887	1.65	0.68
NOV 27,87	NOV 26,87	300.0	18.0	*****	4.32	*****	0.0641	1.40	0.30
NOV 30,87	NOV 29,87	1165.0	5.0	*****	5.03	*****	0.0216	0.30	0.06
DEC 1,87	NOV 30,87	120.0	12.0	*****	4.48	*****	0.0460	0.93	0.22
DEC 2,87	DEC 1,87	18.0	*****	*****	*****	*****	*****	*****	*****
DEC 3,87	DEC 2,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 4,87	DEC 3,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 5,87	DEC 4,87	91.0	*****	*****	*****	*****	*****	*****	*****
DEC 6,87	DEC 5,87	37.0	*****	*****	*****	*****	*****	*****	*****
DEC 7,87	DEC 6,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 8,87	DEC 7,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 9,87	DEC 8,87	25.0	*****	*****	4.27	*****	0.0795	*****	*****
DEC 10,87	DEC 9,87	412.0	24.5	*****	4.28	*****	0.0776	2.15	0.41
DEC 11,87	DEC 10,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 13,87	DEC 12,87	60.0	45.0	*****	4.00	*****	0.1250	1.60	1.33
DEC 14,87	DEC 13,87	19.0	*****	*****	4.51	*****	0.0605	*****	*****
DEC 16,87	DEC 15,87	396.0	15.0	*****	4.50	*****	0.0534	0.75	0.37
DEC 17,87	DEC 16,87	328.0	21.0	*****	4.32	*****	0.0657	0.55	0.65
DEC 18,87	DEC 17,87	*****	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	35.0	22.0	*****	4.44	*****	0.0625	1.30	0.71

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 15

REMOVAL DATE	EXPOSURE DATE	CALCIUM MG/L	CHLORIDE MG/L	MAGNESIUM MG/L	POTASSIUM MG/L	SODIUM MG/L	AMMONIUM AS N MG/L	FREE H+ LAB MG/L
OCT 29,87	OCT 28,87	<T 0.06	<W *****	<T 0.005	<W 0.005	<T 0.005	0.150	0.0219
OCT 30,87	OCT 29,87	*****	*****	*****	*****	*****	*****	*****
OCT 31,87	OCT 30,87	!RE *****	!RE *****	!RE *****	!RE *****	!RE *****	!RE *****	!RE *****
NOV 4,87	NOV 3,87	0.32	0.85	0.090	UG 1.030	0.345	U 7.000	UG 0.0000
NOV 5,87	NOV 4,87	0.44	0.16	0.045	0.050	0.040	0.740	0.0457
NOV 6,87	NOV 5,87	0.34	0.10	0.030	<T 0.015	<T 0.015	0.185	UG 0.0003
NOV 7,87	NOV 6,87	*****	*****	*****	*****	*****	*****	*****
NOV 8,87	NOV 7,87	*****	*****	*****	*****	*****	*****	*****
NOV 9,87	NOV 8,87	0.22	0.14	<T 0.010	0.075	<T 0.020	0.685	0.0832
NOV 11,87	NOV 10,87	*****	*****	*****	*****	*****	*****	*****
NOV 13,87	NOV 12,87	*****	*****	*****	*****	*****	*****	*****
NOV 14,87	NOV 13,87	*****	*****	*****	*****	*****	*****	*****
NOV 15,87	NOV 14,87	*****	*****	*****	*****	*****	*****	*****
NOV 18,87	NOV 17,87	0.12	0.27	<T 0.025	<T 0.010	0.135	0.035	0.0145
NOV 19,87	NOV 18,87	0.36	0.10	0.025	<T 0.020	<T 0.020	0.540	0.0372
NOV 21,87	NOV 20,87	1.12	0.22	0.075	0.025	0.050	0.310	0.0145
NOV 22,87	NOV 21,87	1.46	0.17	0.135	0.050	0.055	0.240	UG 0.0000
NOV 23,87	NOV 22,87	*****	*****	*****	*****	*****	*****	*****
NOV 24,87	NOV 23,87	0.66	0.87	0.095	0.070	0.455	0.725	0.1698
NOV 25,87	NOV 24,87	*****	*****	*****	*****	*****	*****	*****
NOV 26,87	NOV 25,87	<T 0.06	0.10	<T 0.005	<T 0.010	0.085	0.180	0.0646
NOV 27,87	NOV 26,87	<W 0.02	<T 0.02	<W 0.005	<W 0.005	<T 0.010	0.035	0.0479
NOV 30,87	NOV 29,87	<W 0.02	<W 0.19	<T 0.005	<W 0.005	0.080	<W 0.005	0.0093
DEC 1,87	NOV 30,87	<W 0.02	<T 0.03	<W 0.005	<W 0.005	<T 0.010	<T 0.025	0.0331
DEC 2,87	DEC 1,87	*****	*****	*****	*****	*****	*****	*****
DEC 3,87	DEC 2,87	*****	*****	*****	*****	*****	*****	*****
DEC 4,87	DEC 3,87	*****	*****	*****	*****	*****	*****	*****
DEC 5,87	DEC 4,87	*****	*****	*****	*****	*****	*****	*****
DEC 6,87	DEC 5,87	*****	*****	*****	*****	*****	*****	*****
DEC 7,87	DEC 6,87	*****	*****	*****	*****	*****	*****	*****
DEC 8,87	DEC 7,87	*****	*****	*****	*****	*****	*****	*****
DEC 9,87	DEC 8,87	!IS *****	!IS *****	!IS *****	!IS *****	!IS *****	0.140	0.0537
DEC 10,87	DEC 9,87	<T 0.08	0.27	0.030	<T 0.020	0.415	<T 0.010	0.0525
DEC 11,87	DEC 10,87	*****	*****	*****	*****	*****	*****	*****
DEC 13,87	DEC 12,87	!IS *****	<T 0.05	!IS *****	!IS *****	!IS *****	0.220	0.1000
DEC 14,87	DEC 13,87	0.11	!IS *****	<T 0.015	<T 0.025	0.085	0.560	0.0309
DEC 16,87	DEC 15,87	<W 0.02	<T 0.03	<W 0.005	<W 0.005	<T 0.010	0.030	0.0316
DEC 17,87	DEC 16,87	<W 0.02	<T 0.02	<W 0.005	<W 0.005	<T 0.015	0.030	0.0479
DEC 18,87	DEC 17,87	*****	*****	*****	*****	*****	*****	*****
DEC 19,87	DEC 18,87	!IS *****	0.30	!IS *****	!IS *****	!IS *****	!IS *****	0.0363

ONTARIO MINISTRY OF THE ENVIRONMENT  
DAILY SAMPLING ANALYSIS RESULTS  
APIOS - ACIDIC PRECIPITATION IN ONTARIO STUDY

STATION NAME : SUTTON/DAILY/AEROCHEM./7011

PAGE : 16

REMOVAL DATE	EXPOSURE DATE	SAMPLING START/END HR. HR.	PRECIP START/END HR. HR.	SAMPLE TYPE 01-RAIN 02-SNOW 03-COMP/04-OTHER	GAUGE DEPTH(MM)	GAUGE TYPE 01-STD. 02-NIPHER	SAMPLE NUMBER	PROJECT CODE 02-APIOS 03-SPECIAL	SUBPROJECT CODE 01-MOE 03-AES	SAMPLER EFFICI- ENCY (%)	COMMENTS FIELD OFFICE
DEC 20,87	DEC 19,87	845 840	600 840	2	2.1	2	75279	2	1	49	N
DEC 21,87	DEC 20,87	840 840	840 1700	3	6.8	2	75280	2	1	58	
DEC 24,87	DEC 23,87	835 820	1055 1630	2	2.0	2	75281	2	1	49	N
DEC 25,87	DEC 24,87	825 850	300 850	3	5.4	2	75282	2	1	100	
DEC 26,87	DEC 25,87	855 840	855 1615	1	0.8	2	75283	2	1	115	
DEC 27,87	DEC 26,87	850 850	2230 600	2	0.1	2	75284	2	1	****	E N
DEC 28,87	DEC 27,87	855 845	910 1830	2	2.3	2	75285	2	1	14	N
DEC 29,87	DEC 28,87	850 850	400 850	2	0.8	2	75286	2	1	11	Q N
DEC 30,87	DEC 29,87	855 830	855 1530	2	0.2	*	75288	2	1	****	E N

PAGE : 17

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PAGE : 18

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